COAST GUARD EFFORTS TO PREVENT OIL POLLUTION CAUSED BY TANKER ACCIDENTS

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HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON GOVERNMENT OPERATIONS HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

FIRST SESSION

MARCH 21 AND 23, 1977

Printed for the use of the Committee on Government Operations

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COAST GUARD EFFORTS TO PREVENT OIL POLLUTION CAUSED BY TANKER ACCIDENTS

MONDAY, MARCH 21, 1977

House of Representatives,
Government Activities and
Transportation Subcommittee
of the Committee on Government Operations,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2247, Rayburn House Office Building, Hon. John L. Burton (chairman of the subcommittee) presiding.

Present: Representatives John L. Burton, David W. Evans, Anthony Moffett, Jack Hightower, Charles Thone, Robert S. Walker, and Arlan Stangeland.

Also present: Miles Q. Romney, staff director; Bruce R. Butterworth, professional staff member; Cynthia M. Mora, professional staff member; Elizabeth L. Wasserman, clerk; and Richard M. Tempero, minority professional staff, Committee on Government Operations.

Mr. Burton. The subcommittee will come to order.

The purpose of these hearings is to take testimony on the Coast Guard's efforts to prevent oil pollution caused by accidental tanker spills. We will also be looking at the efforts of the Coast Guard, the Federal Maritime Commission, and the Department of Justice as they endeavor to implement portions of law that provide for the recovery of Federal funds that are expended for cleanups.

The jurisdiction of the Government Activities and Transportation Subcommittee includes the oversight responsibility as to the Department of Transportation and its components including the Coast Guard. The Federal Maritime Commission also falls within this subcommittee's jurisdiction.

Initially these hearings were called to elicit the facts and the evidence and hopefully build a case in prodding the administration to deal with the problems of oil tanker spills and liability. Since the witnesses were notified, the administration has come out with a program that, in the words of the White House, is designed to reduce the risks associated with the marine transportation of oil.

Out of necessity, and I think commonsense, the main focus of these hearings will now be on the program put forth by the White House, how it is intended to work, what the costs of such a program would be, and what the implementation factors would be as far as a timetable is concerned.

Pollution of the marine environment through tanker ship accidents and casualties, and through routine operations, is a increasingly serious problem. A Coast Guard report contains an estimate that pollution from all sources amounts to 1,350,000 metric tons on the average each year, which is about 420,000,000 gallons of oil. About 15 percent of these spills are due to tanker accidents.

Although the 15 percent would seem rather a small percentage, this 15 percent usually ends up close to shore. affecting marine life and environment. And also that 15 percent happens in fairly large quantities, whereas the other 85 percent normally is spread throughout the oceans of the world and in smaller individual quantities.

In the Federal Water Pollution Control Act of 1972, Congress declared the policy of the United States to be that there should be no discharges of oil or hazardous substances into or onto the navigable waters of the United States adjoining shorelands or into or upon the waters of the contiguous zone.

The 1972 Ports and Waterways Safety Act declared the necessity of establishing for all vessels documented under the law of the United States or entering our waters to have comprehensive minimum standards of design, construction, alteration, repair maintenance, and operation to prevent or mitigate the hazards to life. This regulatory responsibility was assigned to the Coast Guard.

On March 18, which was last Friday, the President sent Congress a 6-point program of measures designed to reduce the risks that attend maritime transportation of oil. This five page fact sheet accompanied the President's message. In light of that fact sheet, as I said before, the subcommittee will be directing itself toward that fact sheet and towards the implementation of these plans. The original purpose of the hearing to bring about such a program from the administration is no longer necessary because the administration was aware of the facts that this subcommittee and its staff were ready to bring out today.

I would ask those of you who were called as witnesses who planned on testifying as to the problem and the need of the Government to address itself to the problem, that we accept your statements for the record. To the extent you can, comment on the fact sheet and on the administration proposals.

With me on the subcommittee today is the distinguished gentleman from Nebraska and the ranking minority member, Congressman Thone, and also the newest member of the House of Representatives—a distinction that I had 2½ years ago being number 435—Congressman Stangeland from Minnesota.

We will be joined by other members of the subcommittee and also, possibly, Congressman Leo Ryan who chairs the Environment, Energy, and Natural Resources Subcommittee of Government Operations. Mr. Ryan's subcommittee has been holding hearings into this subject matter as well from a different vantage point.

Mr. Thone?

Mr. THONE. Thank you, John.

I would like to take this opportunity to welcome you as chairman of this subcommittee. This is your first official chair and I am sure that we will have many, many fruitful hearings in the future.

I would also like to welcome, on our side of the aisle here, Representative Arlan Stangeland. As you know, Mr. Stangeland recently won a special election in Minnesota and has taken Representative Edwin Forsythe's position on the subcommittee.

Frankly, Mr. Chairman, I had mixed emotions when I discovered that the first hearings of this Congress were to be on the subject of oilspills. I was pleased because it has been long my belief that we should move on from the distinguished record that we have compiled with the FAA to other areas of our jurisdictional mandate.

I was a little perplexed, however, because it is a little hard for Nebraska—and I assume, Arlan, for you from Minnesota—us Midwest Congressmen—to convince our constituents that the oilspill problem directly affects them. To most of them the shoreline is part of an inland lake and it is tough to envision an oil tanker on one of them. In fact, many of the lakes are smaller than some of the tankers that we will talk about here today. I felt better when Congressman Walker, who will be with us later today, assured me that there was some shoreline in Lancaster County. Since he couldn't be here to defend it he asked Congressman Stangeland and myself to take care of that job for him.

. In all seriousness, Mr. Chairman, this problem clearly does affect my constituents, Mr. Stangeland's constituents, Mr. Walker's constituents, and, in fact, all Americans. The increased cost to the Federal Government to continue to clean up the problems created by subpar vessels and seaman plying the seas near American shores rest as heavily on the taxpayers in Nebraska as those who live on the coastline.

The loss of oil, some 500 million gallons, at sea in tanker accidents during the last 10 years would have made a considerable difference in the oil availability to my constituents and to yours.

Taking the experience with our inland lakes as our guide there is a necessary lesson to be learned. Safety must be paramount in our efforts but it is easier to control pollution before it becomes a problem rather than fighting to lessen its effect after it has become a problem.

According to a recent Wall Street Journal article there are some 4,500 oil tankers on the high seas. They cause 10 casualties per day. Since 1964, these accidents have destroyed 198 tankers, caused 1,054 deaths, and spilled the one-half billion gallons of oil I mentioned above.

If these statistics continue to accelerate at their current rate, we will soon be behind the power curve of environmental pollution unless we begin to take the necessary measures available. The appropriateness of this hearing is confirmed by the initiatives to reduce maritime oil pollution announced by the White House and our former colleague, the Secretary of Transportation Brock Adams, just last Friday. You made mention of that, Mr. Chairman, and frankly I think that the initiative by this subcommittee and its staff has been a real help.

I look forward to working with you as we study Coast Guard efforts to prevent oil pollution caused by tanker accidents and Coast Guard, Federal Maritime Commission, and Department of Justice efforts to recover Federal funds expended for cleanup operations.

Lastly, Mr. Chairman, I would like to commend the staff on their investigation. The materials they prepared for us are excellent—very complete and thorough. The investigation was obviously done with meticulous care. This bodes well for the quality of the hearing. I'm hopeful these efforts will set new standards of excellence for the subcommittee.

Thank you, Mr. Burton, that's all I have at this time.

Mr. Burton. Thank you, Mr. Thone.

I can appreciate your ability to translate the need to deal with this problem to your constituents the same way I translate the need to preserve the family farm to my constituents.

Mr. Stangeland, would you like to make some comments?

Mr. Stangeland. I have no statement.

Mr. Burton. Mr. Moffett?

Mr. Moffett. No, Mr. Chairman.

Mr. Burton. The first witness will be Rear Adm. William M. Benkert, Chief of the Office of Marine Safety for the U.S. Coast Guard.

We are pleased to have you with us, Admiral, and before you begin your prepared statement I wonder if you could also summarize for the committee, briefly, your background in this area.

STATEMENT OF REAR ADM. WILLIAM M. BENKERT, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD; ACCOMPANIED BY CAPT. FREDERICK P. SCHUBERT, DEPUTY CHIEF, OFFICE OF MARINE ENVIRONMENT AND SYSTEMS

Admiral Benkert. Thank you very much, Mr. Chairman. I have at the table here Capt. Frederick Schubert, U.S. Coast Guard, who is presently the Deputy Chief of our Office of Marine Environment and Systems and who for the past several years has been directly in charge of a number of aspects of our environmental protection program. I would like to have him join me, sir.

Mr. Chairman, regarding my own background pertinent to this hearing, I have served as a commissioned officer in the Coast Guard since 1943. I am a graduate of the U.S. Coast Guard Academy. I have spent approximately 15 years aboard ship—sailing Coast Guard vessels. I have also spent some periods of time sailing on merchant vessels in my capacity as a Coast Guard officer. Almost entirely all of my assignments ashore have been associated with our merchant marine safety program. I have served as officer in charge of a number of our marine inspection offices, including New York. For the last 7 years I have been stationed here in Washington, D.C., first as Deputy Chief of the Office of Merchant Marine Safety, and then upon my promotion as the Chief of the Office of Marine Environment and Systems for some 3 years. For the past 3 years I have been assigned as Chief of the Office of Merchant Marine Safety.

My responsibilities in this assignment are inherent in the title and are a direct responsibility for the Coast Guard's activities insofar as merchant marine safety is concerned, including all of our regulatory activities and inspection activities.

Mr. Burton. Thank you, Admiral.

Admiral Benkert. With your permission I would like to read the prepared statement I have. It is fairly short and I think it does hit some of the high points of what you are looking at here today.

I am delighted to appear here before you today on behalf of the Department of Transportation to testify concerning certain Coast

Guard activities involving the prevention of oil pollution and the recovery of Federal funds expended in cleanup operations.

As you have already stated, Mr. Chairman, I would like to provide for the record copies of the very recent Presidential message on this general subject, and I would also like to provide for the record, if I may, Secretary Adams' statement concerning this subject which was made before the Senate Commerce Committee last Friday.

Mr. Burton. Without objection, that will be part of the record.

[The material follows:]

TO THE CONGRESS OF THE UNITED STATES:

The recent series of oil tanker accidents in and near American waters is a grave reminder of the risks associated with marine transportation of oil. Though we can never entirely eliminate these risks, we can reduce them. Today I am announcing a diverse but interrelated group of measures designed to do so.

These measures are both international and domestic. Pollution of the oceans by oil is a global problem requiring global solutions. I intend to communicate directly with the leaders of a number of major maritime nations to solicit their support for international action. Oil pollution is also a serious domestic problem requiring prompt and effective action by the federal government to reduce the danger to American lives, the American economy, and American beaches and shorelines, and the steps I am taking will do this.

The following measures are designed to achieve three objectives: First, to reduce oil pollution caused by tanker accidents and by routine operational discharges from all vessels; Second, to improve our ability to deal swiftly and effectively with oil spills when they do occur; and Third, to provide full and dependable compensation to victims of oil pollution damage.

These are the measures I recommend:

* RATIFICATION of the International Convention for the Prevention of Pollution from Ships. I am transmitting this far-reaching and comprehensive treaty to the Senate for its advice and consent. This Convention, by imposing segregated ballast requirements for new large oil tankers and placing stringent controls on all oil discharges from ships, represents an important multilateral step toward reducing the risk of marine oil pollution. In the near future, I will submit implementing legislation to the Congress.

- REFORM of ship construction and equipment standards. I am instructing the Secretary of Transportation to develop new rules for oil tanker standards within 60 days. These regulations will apply to all oil tankers over 20,000 deadweight tons, U. S. and foreign, which call at American ports. These regulations will include:

  - Double bottoms on all new tankers;
  - Segregated ballast on all tankers;
  - Inert gas systems on all tankers;
  - Backup radar systems, including collision-avoidance equipment, on all tankers; and
  - Improved emergency steering standards for all tankers.

These requirements will be fully effective within five years. Where technological improvements and alternatives can be shown to achieve the same degree of protection against pollution, the rules will allow their use.

Experience has shown that ship construction and equipment standards are effective only if backed by a strong enforcement program. Because the quality of inspections by some nations falls short of U. S. practice, I have instructed the Department of State and the Coast Guard to begin diplomatic efforts to improve the present international system of inspection and certification. In addition, I recommend the immediate scheduling of a special international conference for late 1977 to consider these construction and inspection measures.

- IMPROVEMENT of crew standards and training. I am instructing the Secretary of Transportation to take immediate steps to raise the licensing and qualification standards for American crews.

The international requirements for crew qualifications, which are far from strict, will be dealt with by a major international conference we will participate in next year.

I am instructing the Secretary of Transportation to identify additional requirements which should be discussed, and if not included, may be imposed by the United States after 1978 on the crews of all ships calling at American ports.

* DEVELOPMENT of Tanker Boarding Program and U. S. Marine Safety Information System. Starting immediately, the Coast Guard will board and examine each foreign flag tanker calling at American ports at least once a year and more often if necessary. This examination will insure that the ship meets all safety and environmental protection regulations. Those ships which fail to do so may be denied access to U. S. ports or, in some cases, denied the right to leave until the deficiences have been corrected. The informatio gathered by this boarding program will permit the Coast Guard to identify individual tankers having histories of poor maintenance, accidents, and pollution violations. We will also require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and included in this Marine Safety Information System.

* APPROVAL of Comprehensive Oil Pollution Liability and Compensation Legislation. I am transmitting appropriate legislation to establish a single, national standard of strict liability for oil spills. This legislation is designed to replace the present fragmented, overlapping systems of federal and state liability laws and compensation funds. It will also create a $200 million fund to clean up oil spills and compensate victims for oil pollution damages.

* IMPROVEMENT of federal ability to respond to oil pollution emergencies. I have directed the appropriate federal agencies, particularly the Coast Guard and the Environmental Protection Agency, in cooperation with state and local governments to improve our ability to contain

and minimize the damaging effects of oil spills. The goal is an ability to respond within six hours to a spill of 100,000 tons.

Oil pollution of the oceans is a serious problem that calls for concentrated, energetic, and prompt attention. I believe these measures constitute an effective program to control it. My Administration pledges its best efforts, in cooperation with the international community, the Congress, and the public, to preserve the earth's oceans and their resources.

Jimmy Carter

THE WHITE HOUSE, March 17, 1977

THE WHITE HOUSE

MAR 1 C 1977

FACT SHEET

ACTIONS TO REDUCE MARITIME OIL POLLUTION

The President today announced a series of recommended Federal Government actions to deal with the problem of marine oil pollution caused by oil tankers. These include:

- A call for a special international conference to discuss stricter standards for oil tanker construction, equipment and inspections.
- Regulatory action by the Department of Transportation to establish new U.S. standards for all tankers entering U.S. ports.
- A Coast Guard program to board and examine all foreign flag oil tankers entering U.S. ports.
- U.S. ratification of the International Convention for the Prevention of Pollution from Ships, 1973.

BACKGROUND

As announced on March 16, these measures are designed to deal with the problem of oil tanker accidents and spills which occurred so frequently in and near U.S. waters this winter. The recommended actions will also serve to reduce oil pollution caused by operational discharges from tankers.

The President plans to communicate directly with the leaders of a number of major maritime nations to seek their support for strengthened international solutions to this world-wide environmental problem. The United States will also continue to participate actively in the Inter-Governmental Maritime Consultative Organization, a special United Nations agency, to formulate new programs to reduce vessel-source oil pollution.

The President's domestic program is strong and comprehensive. It includes both administrative and legislative actions and meets all four of the President's objectives - reduction in tanker pollution, improvements in oil spill response, assuring compensation of damaged citizens, and reorganization of government programs.

The recommended actions were formulated after consultation with environmental groups, the oil and transportation industries, oil spill cleanup companies and maritime unions. In addition, the suggestions and views of coastal States were solicited.

THE PRESIDENT'S PROPOSALS

1. The International Convention for the Prevention of Pollution from Ships, 1973

The President will transmit this important International Conventi to the Senate for its advice and consent and will submit implementing legislation next month for Congressional approval. The United States was a leader in the development of this Convention, commonly known as the 1973 Marine Pollution Convention. It is a far-reaching and comprehensive agreement which will have an important impact on marine oil pollution.

The Convention places stringent controls on oil discharges from ships, including for the first time, discharges of light refined petroleum products. It requires segregated ballast for all new tankers 70,000 deadweight tons and over, as well as oil discharge monitoring and control equipment, and sets requirements for cargo tank size and arrangement to limit oil spills in case of accident. In addition, the ports of signatories to the Convention will be required to have reception facilities for tankers' oily wastes.

2. Ship Construction and Equipment Standards

The President is directing the Secretary of Transportation to issue within 60 days proposed rules for a series of new oil tanker standards, and, as provided by law, to expedite the necessary regulatory procedures. The proposed regulations will apply to all oil tankers, U.S. and foreign, over 20,000 deadweight tons entering U.S. ports. They will include:

1. Double bottoms on all new tankers.
2. Segregated ballast on all tankers.
3. Inert gas systems on all crude tankers.
4. Backup radar systems with collision avoidance equipment on all tankers.
5. Improved emergency steering standards for all tankers.

These requirements would take full effect within five years. The rules should allow the adoption of technological improvements and alternatives which can be shown to accomplish equivalent pollution protection.

Ship construction and equipment standards are not effective unles coupled with a strong enforcement program. Therefore, the President is directing the Department of State and the Coast Guard to begin diplomatic efforts to upgrade the present international system of inspection and certification. Construction and equipment inspections are carried out by all maritime nations. However, the quality of inspections by some nations falls far below U.S. practice.

In addition the United States will propose the immediate scheduli of a special international conference for the early fall to consider these construction and inspection measures. The U.S. will recommend that technical preparatory work be done by the Inter-Governmental Maritime Consultative Organization this spring and summer to ensure effective international action.

Authority for the domestic action is provided by the Ports and Waterways Safety Act of 1972 (Public Law 92-340) which provides the Department with a broad mandate to protect U.S. waters against pollution. These standards will reduce pollution through both accident prevention and reduction in operational discharges. A description of these requirements follows:

Double bottoms reduce oil spills caused by tanker groundings. Studies of groundings conclude that in 45 to 90 percent of cases no oil outflow would have occurred if the tank vessel had had a double bottom. The requirement will apply only to new vessels. Double bottoms can also be used for a part of the required segregated ballast space.

Segregated ballast provides tanks dedicated exclusively for the seawater which is carried by empty oil tankers for ballast. The use of separate clean tanks means that no oil is discharged along with ballast water. Deballasting and associated tank washing is the major source of operational oil pollution from tankers. Ballast tanks on new tankers can also be arranged to provide protection against oil outflow in case of accident.

The 1973 Marine Pollution Convention marks the international community's acceptance of the concept of segregated ballast. Coast Guard regulations currently require the system on all new tankers over 70,000 deadweight tons, foreign and domestic. The rulemaking proposed today also covers existing tankers. These vessels can achieve segregated ballast capability by dedicating certain cargo tanks to ballast and modifying piping and pumps.

Inert gas systems reduce the danger of explosions which may occur at times when oil tanks are not full, primarily during tank washi but also in loading and unloading, and during ballast voyage. The Sansinena, which exploded in Los Angeles harbor in December while taking on ballast, had no inert gas system.

Current U.S. regulations require the system for new U.S. tankers over 100,000 deadweight tons. The proposed rule will also apply to existing tankers and foreign flag vessels.

Backup radar systems provide redundant capacity in case of equipment failure. Collision avoidance equipment can be programm to automatically process radar information and to trigger an alar when dangerous situations arise. The equipment also provides information to the crew for maneuvering to avoid the potential danger. The systems are most effective in the coastal confluence zone where vessel traffic patterns converge toward U.S. ports. T requirement will apply to both new and existing vessels and woulc be effective for existing vessels within 2 years of final rulemaking.

Improved emergency steering standards will be drafted. Current regulations impose redundancy requirements for some components of tanker steering gear. Additional requirements which would further improve reliability have been identified.

3. Crew Standards and Training

The President is ordering several actions to improve the qualifications of crews that man oil tankers entering our ports. These actions are particularly crucial because human error is involved in 80-85 percent of all tanker accidents. The United States imposes relatively strict standards for the U.S. Merchant Marine, but stringent international requirements for crew qualifications do not exist. However, the Inter-Governmental Maritime Consultative Organization is developing a major draft convention on the subject for negotiation next year. The President views this effort as a major international opportu to upgrade crew qualifications. The President is directing the Departments of Transportation and Commerce to review the agenda (the draft convention) for the 1978 Conference on Standards of Watchkeeping and Training to identify additional requirements which should be proposed for consideration. In addition, the Department will identify all requirements which, if not included in the 1978 Convention, the U.S. should impose on crews of all ships entering U.S. ports.

Nationally, the President is directing Transportation to take immediate regulatory action to improve standards for U.S. crews. Requirements will include experience by class and size of vessel. or training and demonstration of proficiency on ship simulators. These requirements will apply to both issuance and renewal of licenses to ships masters, mates and Federally licensed pilots. More emphasis will be placed on requiring deck officers to demonstrate important skills, such as radar operation and interpretation, instead of relying on written examinations. Finally, regulations will be issued to require th crew members in charge of cargo transfer operations be specially trained and examined.

4. Tanker Boarding Program and U.S. Marine Safety Information System

The President is directing that, starting immediately, each foreign flag tanker which enters U.S. ports will be boarded by the Coast Guard and examined to insure that the ship meets all safety and environmental protection regulations. Tankers will be boarded at least once a year and more often if necessary. Any deficiencies in the tanker's condition will be required to be corrected. This winter the Coast Guard began a limited foreign tanker boarding program. The President's revisions to the Budget for the next fiscal year requested additional funding for this program.

The information which is gathered from the boarding program will be fed into a U.S. Marine Safety Information System, which will be established to keep track of the accident and pollution records of all ships, U.S. and foreign, entering U.S. ports. Coast Guard information systems already contain some of this information for U.S. vessels. Since 94% of our imported oil enters the country in foreign tankers, it is important that information on these vessels also be available to Captains of the Port at all major U.S. ports. The President is also directing that the proper Federal agencies initiate action to require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and be made available for inclusion in the Marine Safety Information System. This system will enable the Coast Guard to promptly identify tankers which have long histories of poor maintenance, pollution violations and accidents. Once identified, such tankers can be excluded from U.S. ports, if necessary.

5. Comprehensive Oil Pollution Liability and Compensation Legislation

The Secretary of Transportation will submit to Congress on the President's behalf the Comprehensive Oil Pollution Liability and Compensation Act of 1977, which replaces the current fragmented and overlapping systems of Federal and State oil spill liability laws and compensation funds with a single nationwide framework. It establishes one national standard of strict liability for oil spills whether the source be vessels, pipelines, terminals or offshore facilities. It also establishes a $200 million fund to cover cleanup costs and to assure full compensation to victims for virtually all oil pollution damages. The fund consolidates three existing Federal oil pollution compensation funds, the Trans-Alaska Pipeline Fund, the Deepwater Ports Fund and part of the Federal Water Pollution Control Act Fund. The compensation provided under the legislation is extensive. For example, eligible claimants include fishermen whose usual fishing grounds are polluted and resort communities whose peak vacation seasons are ruined by oil-slicked beaches.

The Administration bill is based on legislation which has been introduced by Congressmen Murphy and Biaggi and is now under consideration by the House Merchant Marine and Fisheries Committe The Administration bill raises the minimum liability for vessels carrying oil in bulk to $500,000 and removes the $30 million ceiling on liability for supertankers. It also proposes a mechanism for States to participate in the Federal compensation system. Another change will allow the Fund to provide compensation to Federal and State agencies which perform post-spill environmental damage assessments.

6. Federal Oil Pollution Response Capability

The President is directing the Coast Guard, the Environmental Protection Agency, and other responsible Federal agencies to begin plans for upgrading their capability to respond to, contain and mitigate the damaging effects of oil spills in cooperation wit State and local governments. Special attention will be given to spills which occur under extreme weather conditions.

The framework for coordination of Federal pollution response activities is established by the National Contingency Plan (40 Federal Regulations 1510). The Coast Guard and the Environmental Protection Agency are the lead agencies under the plan. In their assigned areas of responsibility, each agency predesignates Federal on-scene coordinators who are responsible for directing the Federal response when oil spills occur. The National Plan is supplemented by Regional Response Plans, which provide for coordination of Federal, State and local government response efforts. This response system, particularly the Regional Plans, will be reviewed as part of the President's oil pollution program.

Presently the Coast Guard can deliver pollution containment and cleanup equipment to the scene of a spill within 24 hours. The Administration plans to evaluate the costs and feasibility of upgrading this capability to provide adequate response within six hours for a spill of up to 100,000 tons of oil.

ADDITIONAL INITIATIVES

Along with the major actions just discussed, the President is directing the Secretary of Transportation, in cooperation with the Environmental Protection Agency and other appropriate agencies, to undertake several studies of other promising programs and techniques for reducing marine oil pollution. These studies will include:

- An evaluation of the costs and benefits of crude washing, a system which utilizes crude oil to clean cargo tanks.
- An evaluation of design, construction and equipment standards for tank barges which carry oil.
- A study of long range vessel surveillance and control systems.
- An evaluation of devices to improve maneuvering and stopping ability of large tankers, with research to include the use of ship simulator.
- A study of the fee collection mechanism for the comprehensive oil pollution fund.

The Secretary of Transportation will report back to the President after 6 months on the status of these studies.

STATEMENT OF BROCK ADAMS, SECRETARY OF TRANSPORTATION, BEFORE THE SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION, CONCERNING MARINE OIL POLLUTION, FRIDAY, MARCH 18, 1977.

Mr. Chairman and Members of the Committee:

My appearance here today is to address the severe and continuing oil pollution of our oceans and waterways and the President's action plan to deal with the crisis. Much of what is being proposed by the President and the Department of Transportation follows the chairman's lead as set forth in the Magnuson bills now before this committee.

Each year, more than one and a third million tons of oil are discharged or spilled into the oceans of the world. In American waters and ports, nearly three million gallons of oil are spilled or discharged annually.

It was against this backdrop that in my first days as Secretary of Transportation I took certain steps to upgrade marine safety and to prevent oil spills. A summary of those actions is attached to my statement.

President Carter has taken a personal role in guiding the Administration's response to a global crisis that is felt most sharply at home because of the threat to our beaches and the serious economic loss to our citizens.

The President's message states clearly what we have done so far, the vessel and crew standards that should be initiated immediately, the international agreements that are at the core of a successful program, and the legislation necessary to compensate the victims of oil pollution.

I should add that on the subject of legislation, we support the establishment of a comprehensive oil spill liability and compensation system, which is the heart of S. 687 and H.R. 3711. The Comprehensive Oil Pollution Liability and Compensation Act of 1977, which I am submitting to the Congress on the President's behalf, replaces the current overlapping system of federal and state oil spill liability and compensation funds. It proposes a single national framework of strict liability for oil spills, either from vessels, pipelines, terminals or offshore facilities.

Its intent is to fully compensate victims, whether individuals or municipalities for virtually all oil pollution damages. I strongly urge that the Congress pass this comprehensive legislation tieing together the best of the Senate and House bills.

The President's program, while recognizing the international implications of oil spills, accidents and discharges, leaves no room for doubt that the United States will act resolutely to protect its own shores, now and in the future.

President Carter's message is comprehensive. It directs its attention to the ships, the crews, the enforcement of regulations and the international agreements.

To begin with, the President has asked me to develop within 60 days new regulations for oil tankers of more than 20,000 deadweight tons that enter U.S. ports. These proposals would include:

1) Segregated ballast and, in the case of new vessels, double bottoms.
2) Inert gas systems to lessen the risk of explosion.
3) Backup radar with collision avoidance equipment.
4) Improved emergency steering standards.

There would be appropriate phasing-in periods for these requirements, and we will be receptive to new technology that can provide equivalent pollution protection. These regulations would help reduce the danger of spills from groundings and collisions and minimize ocean pollution.

They would reduce the hazard of fire and explosion during oil transfer and tank cleaning operations and provide for safer navigation.

Equally important is the standard of training for those who operate vessels that visit American ports.

Human error is by far the most significant cause of accidental oil spills. Equipment improvements can compensate to a limited degree for the shortcomings of crew members, but if a significant payoff is to be realized in the reduction of oil spills, the training of the crew members must be improved. The strict standards which apply to the U.S. Merchant Marine can provide a target for international requirements.

Another area that requires greater attention is that of inspection and certification. The quality of inspections by some nations is not up to United States standards and should be improved. We are increasing surveillance over foreign tankers entering our ports to ensure that these ships meet all safety requirements.

Systematic boarding procedures are being established by the Coast Guard to detect deficiencies. There will be follow-up procedures to see that defects are corrected. Where necessary, chronic offenders will be barred from calling at our ports.

In the arena of international agreement, the President is presenting the 1973 Marine Pollution Convention to the Senate today for its advice and consent. Ratification by other countries will also be pursued.

The President has announced his intention to communicate directly with the leaders of other nations to encourage higher equipment and inspection standards, and to discourage the use of substandard tankers.

The United States will make every effort through the Inter-Governmental Maritime Consultative Organization (IMCO) to require the additional vessel and crew-qualification standards and equipment inspection measures that I had mentioned earlier in my statement.

We will urge that IMCO move forward on these measures so that the United States will not find it necessary to take independent action.

It is essential to keep in mind that 85 percent of the oil annually spilled into the oceans from marine transport sources results from operational discharges which usually take place on the high seas beyond national jurisdiction. These chronic discharges frequently pass unnoticed, but they may result in more permanent environmental damage than that caused by the relatively infrequent large spills that occur near our coasts.

Adoption of the 1973 Marine Pollution Convention is the key to increasing control over these and other types of discharges.

Mr. Chairman, the President's actions are bold, timely and carefully considered. I believe that vigorous implementation of his plans will preserve and protect our shorelines without discouraging the international trade that is so basic to our economy.

This completes my prepared testimony, and I am ready to answer any questions the committee may have.

ADDENDUM

REGULATORY ACTIONS TAKEN BY THE DEPARTMENT OF TRANSPORTATION TO PREVENT OIL SPILLS AND IMPROVE TANKER SAFETY

On January 31, 1977, Secretary Adams established a task force to create maritime safety policy for the department.

At the same time he announced the issuance of safety regulations setting a minimum level of proper navigation practice and associated equipment for all self-propelled vessels of 1,600 or more gross tons operating in U.S. navigable waters.

The top-level DOT group, called the Marine Safety Task Force, is chaired by the Deputy Secretary of DOT, the department's second ranking official, and includes the Commandant of the Coast Guard.

Regulations effective June 1, 1977, require that vessels entering U.S. ports have certain navigation equipment, including proper charts, compasses, radio and radar and automatic pilots.

Proposed rules would require LORAN-C equipment on the 60 percent of vessels not now equipped, if they operate in U.S. waters. LORAN (LOong RAnge Navigation) is an electronic system using shore-based radio transmitters and shipboard receivers to allow ships to pinpoint their location at sea.

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Task force members include, in addition to the Deputy Secretary, the General Counsel, the Assistant Secretary for Policy, Plans and International Affairs, the Assistant Secretary for Congressional Relations and Intergovernmental Affairs, the Assistant Secretary for Environment, Safety and Consumer Affairs, Coast Guard Commandant ADM Owen W. Siler, and Deputy Under Secretary Mortimer Downey. Executive Director of the task force will be Coast Guard RADM Sidney A. Wallace.

In issuing regulations to increase marine safety, the Secretary called the current frequency of tanker accidents in U.S. waters "intolerable."

"The safety regulations I am issuing today will take a big step toward reducing these accidents and the casualties and pollution they cause," he said. The regulations were published in the Federal Register.

Required under the new regulations are procedures to reduce navigation hazards from unprofessional performance or substandard equipment aboard vessels underway or at anchor.

Appearing in the January 31 issue of the Federal Register is a notice of proposed rulemaking amending the Navigation Safety Regulations to require Loran-C equipment aboard all tank vessels of 1,600 or more gross tons operating in U.S. waters.

Loran (LOng RAnge Navigation) is an electronic system using shore-based radio transmitters and shipboard receivers to allow ships to pinpoint their position at sea. Capable of repeatable accuracy to within 50 feet, the new Loran-C system will replace Loran-A developed during World War II.

Also among the new regulations are requirements for regular position fixing, better communications between master and pilot, and personnel and equipment readiness. Certain items of navigation equipment, commonly installed, but not previously required, are now mandatory. Additionally, critical ship maneuvering systems aboard each vessel must be tested within 12 hours prior to entering or getting underway in U.S. waters.

The amendments further require a complete set of appropriate charts and publications and operable navigation equipment aboard vessels operating in navigable waters of the U.S.

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Admiral Benkert. These statements and, of course, the President's message do concern the administration's strong initiatives to control the dangerous pollution threat existent to our environment.

Mr. Chairman, the three Coast Guard programs that are involved in this picture are called in our terminology the commercial vessel safety program, our marine environmental protection program, and our port safety and security program.

The commercial vessel safety program deals with U.S. tank vessels, and I shall discuss a little bit later, foreign flag tank vessels and, of course, other categories of vessels. We deal with their equipment, their personnel, by identifying and analyzing marine hazards, developing safety standards to deal with hazards, and enforcing the promulgated standards.

For U.S. tank vessels evidence of compliance with all applicable standards is the Coast Guard issued certificate of inspection. A tank vessel cannot lawfully be operated without holding a valid certificate. A certificate of inspection is issued to a tank vessel when the vessel has been built and equipped in accordance with approved plans and specifications. During the life of the vessel, reinspections are regularly conducted by the Coast Guard to insure the vessel remains in compliance with applicable standards.

There are a variety of items of equipment that the Coast Guard accepts by different means. Major safety items, such as boilers and pressure vessels, require factory inspection and approval. Other items, such as valves, fittings, flanges and hydraulic components are accepted on the basis of a manufacturer's affidavit. Some items are accepted on the basis of approval by a recognized testing laboratory. Whatever the means of acceptance Coast Guard inspectors will allow only acceptable equipment on board a tank vessel.

All personnel employed on board a tank vessel are examined by the Coast Guard to some degree: The degree depends on the person's employment. Entry ratings must meet minimal standards while the master and chief engineer must meet very stringent experience and skill requirements. Licenses are issued for specific time periods and must be renewed at the end of the time period. The Coast Guard closely monitors the employment of the crew for all U.S. tank vessels.

Information is provided on vessel casualties and regulation violations through Coast Guard field investigators. The results of our investigations can and do lead to recommendations for further analysis for potential new standards, changes to equipment requirements, personnel action against a seaman's papers, and other appropriate action.

Foreign flag tank vessels, under the commercial vessel safety program, have not been extensively examined in the past except when they carry certain dangerous cargoes—dangerous from a safety point of view. In the case of the extremely dangerous cargoes, such as chemical tankers or gas tankers, the Coast Guard has required that certain vessels' plans be approved by the Coast Guard and that the vessel be inspected on its first arrival in a U.S. port. A letter of compliance, requiring periodic renewal, is issued to the foreign flag vessel if found satisfactory.

In January of 1977, the Coast Guard implemented an intensified program of examining foreign flag tank vessels. This program is oriented toward primarily the safe handling of cargo. This increased activity is intended to also insure full compliance with international safety and pollution prevention standards and applicable U.S. regulations. Enforcement of applicable standards is primarily accomplished by on-the-spot repair, detaining the vessel if necessary until she is safe to proceed.

The Coast Guard through our port safety and security program safeguards the Nation's ports, waterways, vessels, persons, and property in the vicinity of the ports from accidental or intentional destruction, damage, loss or injury. In addition we protect the environment around navigable water, its attendant resources and shore areas of the United States. At the same time we work to improve the use of ports and waterways by maritime transportation and connecting modes.

The port safety and security mission is multifaceted and complex. Generally, it involves insuring compliance with existing laws and regulations.

Until 1972, our authority was predicated on various laws, regulations, and an Executive order. However, the Ports and Waterways Safety Act revitalized the port safety and security program by making it a permanent statutory responsibility of the Coast Guard. Since enactment of the Ports and Waterways Safety Act, the Coast Guard has worked diligently to enforce the provisions of the act.

There are 54 captains of the port with approximately 1,600 field billets devoted to port safety/security and marine environmental protection duties. These functions include monitoring and supervision of oil transfer, hazardous cargo, and pollution cleanup operations, conducting harbor patrols and waterfront facility inspections and surveys, establishing special security zones when required, and controlling vessel movements and anchorages.

The port safety reporting system is an automated file of information on merchant vessels trading in U.S. ports. The system promotes safety in the United States and encourages fair, consistent, and rational enforcement of regulations from port to port. The resource data comes from reports of violations submitted by our field units when discovered during vessel boardings.

A captain of the port is able to retrieve vessel violation histories which are useful in his daily allocation of boarding resources, and observation of in-port activity of repeated violators. District hearing officers use violation histories of masters, owners, agents, shippers, et cetera, in determining appropriate penalty assessment.

The U.S. Coast Guard, as an executive agency, does not have the authority to assess fines. The Coast Guard does assess civil penalties under the Federal Water Pollution Control Act for illegal discharges of oil into waters of the United States or the contiguous zone. During calendar year 1973 through 1975, 10,457 civil penalties were assessed for a total of $9.4 million, and $4.3 million were collected after mitigation hearings. For violation of the Tanker Act and other associated statutes administered by the Coast Guard, 2,284 violations were detected that resulted in 123 civil penalties totaling approximately $26,000.

The penalty assessed is discretionary and is assessed on the basis of the severity of the violation and the past history of the vessel. No penalty is assessed until that person is given an opportunity to present his side of the case and present any matter to be considered in extenuation. When a penalty is assessed by the Coast Guard district commander, it may be appealed to the Commandant. If the penalty is not paid, the case is referred to the appropriate U.S. attorney for collection.

The primary thrust of the Coast Guard marine environmental protection program is threefold: prevention, enforcement, and response.

In the area of prevention, the Oil Pollution Prevention Regulations for vessels and Oil Transfer Facilities, Title 33 of the Code of Federal Regulations, parts 154 to 156, became effective on July 1, 1974. I might add these particular regulations were the initial implementation of the Federal Water Pollution Control Act which you mentioned in your opening statement.

Based on our experience gained since 1974, revisions will be issued in the near future to improve their implementation and to address the installation of oil-water separators on vessels. The oil pollution prevention regulations apply to all vessels, foreign and domestic. Further, the Coast Guard contemplates extending these provisions to include hazardous substances as soon as those substances are designated under the provisions of the FWPCA by the Environmental Protection Administration.

It is anticipated that in combination with the vessel traffic systems and vessel construction requirements being developed and those presently enforced under the authority of the Ports and Waterways Safety Act of 1972, the prevention regulations will significantly reduce the incidence of discharges of oil into U.S. waters.

In this connection, the pollution incident reporting system was started in December of 1971 for the purpose of collecting information concerning discharges of oil and hazardous substances reported to or detected by the Coast Guard. The system contains data relating to the discharges, response activities, and penalty actions. This data is translated into policies and strategies to effectively execute the mandated responsibilities in marine environmental protection. I have taken the liberty, Mr. Chairman, of appending to my statement the statistics for 1975 in this particular arena.

Mr. Burton. Without objection, that will be made a part of the record.

Admiral Benkert. Our enforcement policy includes: Enforcement of regulations designed to minimize pollution from vessels and shore facilities, including the boarding of vessels to monitor transfer operations; surveillance of ocean dumping activities; conducting pollution patrols to detect violations of the law and to insure compliance with discharge notification requirements. Helicopters and surface craft patrol major harbors. We are currently developing an advanced airborne sensor system capable of detecting, identifying, and mapping oil spills in the coastal areas. Our policy also includes imposition of civil penalties with recommendations for criminal prosecution. In 1975, over 14,000 discharges were reported to, or detected by, the Coast Guard. We are now assessing civil penalties at the rate of over $3 million per year. Future efforts will improve the Coast Guard's capability in the remote coastal areas to fully meet our mandate under the several acts previously mentioned. These efforts should improve public awareness in this vital environmental issue. And this type of effort is quite extensively covered in the President's message and the Secretary's testimony last Friday.

I would be delighted to attempt to answer any questions, Mr. Chairman, that you or other members of the subcommittee might have.

Mr. BURTON. Just briefly on your testimony, and then I will have some on the President's fact sheet.

Title 46, U.S. Code, Shipping, section 391(a) Regulations of the Commandant, talks about vessels carrying certain cargoes, and it makes a policy statement how we are concerned about hazardous substances in cargoes. It talks about certificates being issued under provisions of this section. Do you know the section I'm talking about?

Admiral BENKERT. Yes, I do.

Mr. BURTON. Then, after making that great statement, it says:

> Provided that rules and regulations for vessel safety established hereunder in the provisions of this subsection shall not apply to vessels of a foreign nation having on board a valid certificate of inspection recognized under law or treaty of the United States.

Are there any treaties or laws of the United States presently enforced that exempt——

Admiral BENKERT. Yes, sir, I think I understand what you are asking, Mr. Chairman. I would say, yes, sir, to an extent.

In particular, the 1960 Safety of Life at Sea Convention commonly known as SOLAS 1960 was and is a convention agreed upon by all of the major and all of the minor maritime nations of the world which set up certain basic minimal safety standards for not only tankers but for all types of vessels engaged in international trade—cargo vessels, tank vessels, and passenger vessels.

By becoming a party to this convention which the United States has become, in effect what we have said was that if a foreign-flag vessel comes into our waters and has a valid certificate aboard that vessel indicating her compliance with the SOLAS Convention of 1960, that we will not subject that vessel to a complete inspection and certification process such as we would if she were not.

Mr. BURTON. Does every maritime country subscribe to that convention?

Admiral BENKERT. Yes, sir.

The convention does authorize however, Mr. Chairman, in regulation 19 of that convention, port states activity. For example, in the United States in the case of a foreign-flag vessel entering our waters, it does authorize us to go aboard that vessel to check to see whether she is possessed of a valid compliance certificate. It also authorizes in cases where we feel that the vessel, despite having a certificate, might not be in compliance with all the provisions of that convention, we are authorized to take a look at that vessel. If we find problems with that vessel, we can take care of those problems and in the process report it to the vessel's flag state.

But it does provide some inhibitions against a full approach on our part to a foreign-flag vessel entering our waters, because we have agreed in essence to accept their certification of this vessel.

Mr. BURTON. We don't look behind their certification?

Admiral BENKERT. We do, sir, if we find that there are obvious reasons to do so. We have had a number of cases of this type where we have either been asked by a flag state of a vessel to look at their vessels or we have gone aboard their vessels for the purpose of doing just that. We do this because we have by information or by observation determined that there are violations of the basic SOLAS requirements despite the vessel's certification.

Mr. BURTON. I would assume the SOLAS requirements are far below requirements that we would like to see now for "tanker safety."

Admiral BENKERT. I would say that was putting it a little too strongly, if I might, Mr. Chairman.

Mr. BURTON. Somewhat below.

Admiral BENKERT. I don't think they are far below. There are certain areas, and I might say particularly insofar as tank vessels are concerned, where the SOLAS agreement is very general. We, of course, in this country, have seen fit to publish far more specific requirements applicable in particular to U.S.-flag vessels.

Mr. BURTON. So in effect, for every maritime nation in the world, except where there's reasonable cause, like seeing something wrong or something being brought to your attention, you don't look beyond the certificate that was issued, say, for Liberian tankers from the Liberian certificate-issuing office.

Admiral BENKERT. That's true, sir, unless we have information or by observation. In looking at this you must remember that the SOLAS requirements are basically safety oriented as per the convention. Here in the United States we have promulgated regulations dealing with pollution prevention which are presently over and above any internationally agreed upon requirements. We do go aboard these vessels for examination and enforcement of those regulations.

Mr. BURTON. Dealing with the President's fact sheet, his first proposal is the ratification of the International Convention for the Prevention of Pollution From Ships. This is new tankers not old tankers.

As I understand it, it takes 15 nations to ratify the convention. There are three nations which have ratified now, which means there are 12 more nations to go. If we ratify, there would be four. That means there would still be 11 more nations to go that would have to carry over 50 percent of the world's gross tonnage.

So, conceivably, Liberia, Panama, and Japan, if they decided not to join this convention, could prevent ratification under the terms of the convention. Three or four nations who comprised 51 percent of the gross tonnage could prevent ratification.

I'm really wondering how meaningful that might be. Ratification looks like something that may or may not happen down the road. But even if the convention is ratified, again a certificate from the certificate-issuing office in Liberia will be, in the absence of other factors, taken at face value by the Coast Guard as I understand it. That would be the end of the Coast Guard's inspection unless you had reasonable and probable cause to think that either the certificate was invalid or that facts had changed since they got their certificate of safety. We have to respect the other nation's certificate and give it full faith and credit; don't we?

Admiral BENKERT. If I may, I will tackle the whole question, Mr. Chairman, because I think this is a key to much of what the President is directing here and what is incorporated in this whole concept of this Pollution Convention.

First of all, what you said is true completely as far as international acceptance of this convention is concerned, the concept of the number of nations and the tonnage in order to put it into force internationally.

However, I must bring out this fact that here in the United States, despite the fact that to date we have not ratified this convention nor has it come into force internationally, in terms of practical application of the provisions of this convention, annex 1 of the Pollution Convention of 1973 has been implemented by the United States by regulation not only on U.S.-flag tank vessels but also on foreign-flag tank vessels entering our waters. We are in a position right now where we have, by regulation under the Ports and Waterways Safety Act, implemented the major provisions of this convention. We have done this not only on our own ships but on foreign-flag vessels entering our waters.

What we feel about the 1973 Pollution Convention is simply this. Ratification of this by the United States will give a very strong boost to international acceptance and further ratifications by other countries of this convention to put it into force internationally.

Mr. BURTON. Does this convention go beyond the transfer of oil from vessel to vessel?

Admiral BENKERT. This convention deals with design, construction, equipment, transfer capabilities, operational discharges, and a whole string of operational aspects of tankers. I might add not only new tankers but existing tankers. The only thing that is particularly aimed in this convention, insofar as tankers are concerned, at new vessels is the segregated ballast concept which is one of the major provisions. But there are a large number of provisions of the convention which deal with existing vessels.

I would like to repeat, Mr. Chairman, because I think it is extremely important, that the United States has, in fact, implemented the pregnant portions of this convention by regulation here for our own ships and for foreign-flag vessels entering our country. As a matter of fact, we have even gone beyond the provisions of this convention even though it isn't in force, by directing certain additional requirements at both U.S.-flag and foreign-flag vessels.

For an example, the convention requires new vessels of over 70,000 dead weight tons to have segregated ballast type of design. We have gone one step further in requiring that that segregated ballast concept be utilized aboard the vessel in a specific manner for protective space against collision and against grounding on the vessels. This is far and away over and above what is in that convention.

I say again, even though the convention isn't in force internationally, we have gone ahead to implement that convention nationally for our vessels and for foreign-flag vessels entering our waters where we have the jurisdictions.

Mr. BURTON. I have just one more question. My time is up. It'll be a compounder, I guess.

In 1973 we had to work very hard at the IMCO conference to prevent the adoption of a rule that would have, in effect, prohibited any port state such as ours from having regulations stricter than the general convention; is that right?

Admiral BENKERT. Yes, sir; I think that's a fair statement. I happened to have been in attendance at that convention. I was actually in charge of our delegation during most of the deliberations of that convention.

We had some problems, as I think you do with any international convention, since you are dealing with so many countries, in coming to a consensus point of view. One of the problem areas was this business of port-state jurisdiction versus flag-state jurisdiction and the concept of unilateral action by port states.

Mr. BURTON. Even though we have implemented the convention, which hasn't yet been totally ratified, are we still basically giving full faith and credit to certificates issued to flag states?

Admiral BENKERT. No. Not in this case because there are no certificates presently issued having to do with implementation of the 1973 Pollution Convention because it has not come into force.

Mr. BURTON. In other words, right now you are in a stronger policing position than you will be when the treaty is ratified, because then you will have to give full faith and credit to the flag-state certificates unless other factors lead you to look beyond them. Right now you can set your own criteria and so you don't have to board, look at a document and say, "That's fine."

Admiral BENKERT. I would hope that through the Presidential initiative and through the direction that we have been given to pursue in this international arena, we would be in a position that the other countries would be enforcing and would be implementing and would be in the same type of position as we are as far as their followthrough on enforcement of the provisions. This is the intent of a good part of the President's message.

Mr. BURTON. He can't make intent for these other nations who tried to muster enough support to prohibit any port state from having stronger standards. In other words, if the President could appoint the certificate givers in the other countries, I'd have greater confidence in giving their certificates full faith and credit than I would right now. There's no international enforcement mechanism if they are giving out certificates like zoning changes are given out in certain areas. You don't have to respond, but that's my concern on how the convention will work.

Mr. Moffett?

Mr. MOFFETT. Thank you, Mr. Chairman.

I found your statement very interesting, Admiral. To me the biggest question is really how the Coast Guard is going to gear up to handle the President's new thrust. It seems to me, and we need not argue this, that the Coast Guard hasn't really moved very quickly particularly with regard to its authority under the 1972 act. There are so many things that could have been done.

I think that the VTS system could have been speeded up. I think that we could have had a better retrieval system, and so forth. But be that as it may, the real question now is: In what way is the Coast Guard prepared to accelerate its program, and regulation setting, and inspection, and tough enforcement to back up the President's new policy? If I might be a little more specific, I notice that the President talked about budget revisions. What is the Coast Guard's view of its present capability to carry out what the President is asking you to do; and where do you think you are going to come up short, I'd like to know where you think it might be?

Admiral BENKERT. The first thing I would say is that in terms of resources to carry out the President's program, a large number of the areas in which the President has indicated the pursuance of more concentrated action we will have no problem in handling this. I think that the one area where we do have a problem is in the enforcement area where enforcement depends on having a qualified, capable force of personnel to specifically board vessels, to appraise those vessels, and to follow through on any program that is needed to either upgrade the vessels or to make sure they are, in fact, in compliance with appropriate requirements.

Mr. MOFFETT. We are talking about a major step for the Coast Guard, aren't we? You talked about some things that the Coast Guard is doing, but the fact of the matter is there's no real central retrieval system such as the one they are developing in Canada where you have your automated computer system and your data retrieval tied together so that any time one of your officers goes aboard a vessel he could have on hand that vessel's history.

Admiral BENKERT. We have this right now in certain respects. We have this capability right now particularly, as I mentioned in the statement, in the pollution area with the PIRS system. We have this type of capability. With the port safety system we partially have this capability. With the safety inspection of particularly foreign flag vessels, we have been working on a system for some several years now. We contracted out for some work with the Battelle Institute. I think in the questions which the chairman sent to us some several weeks ago, to which we responded extensively, we went into this quite fully. Our intention has been and is to augment the systems that we have now to increase their capability and to fully develop this information system which would give us what you are saying.

Mr. MOFFETT. Now, for example, we have the VTS system in three ports—Puget Sound, San Francisco, and one other that is being developed in New Orleans.

Admiral BENKERT. Houston, Galveston, we have one being developed for New Orleans, for New York, and for Valdez, Prince William Sound in Alaska. We also have several other smaller systems in our inland waterways.

Mr. MOFFETT. It seems to me that you are going to have to do a lot more than you are doing as result of the announcement last week. I felt that in 1972 when that act was passed that finally we are going to have some action here. I really feel that has been slow in coming.

We had a rather major spill in Long Isand Sound in Connecticut in 1972 before the act was passed and the act at that time, which was proposed legislation, was held up as a possible remedy.

We will have a nationwide VTS system I assume; is that correct? What the Coast Guard has been doing is sort of a patchwork quilt.

Admiral BENKERT. I wouldn't call it a patchwork quilt, Mr. Moffett. What the Coast Guard has been doing is what we were directed to do under the Ports and Waterways Safety Act. If you look at the specifics of that act relative to VTS, it tells us to look at individual ports, to look at the need for a system in that particular port, to consult with the industry, to consult with interested persons, and to develop where it was felt to be necessary an appropriate VTS in that particular area.

We developed in this particular arena a priority listing—and I've forgotten exactly how many ports we had on this, I think it was something like 20-odd ports; am I correct? We felt there were priorities as far as hazards of traffic, scope of traffic, the geographical contours of the area from a safety and pollution prevention point of view. We have been proceeding on that basis since the act went into effect. We have developed a number of systems, we have a number more that are either in the process of development at an early stage or quite a bit along the way.

We have been following—in the development of VTS's—what the law told us to do. I must add we have also been following this at a pace that was compatible with the budgetary resources which were furnished in order to do this.

Mr. Moffett. Did the Coast Guard ever come up here and ask for more money and say that they didn't have enough money to implement the mandate of the act?

Admiral Benkert. We have in certain instances in our budgetary presentations as I am sure you are well aware. Our budget goes from what the Coast Guard thinks it needs, to the Department of Transportation and thence to OMB.

Mr. Moffett. Obviously the difference now is that we are going to have a new administration that is going to be leaning on the Coast Guard to carry out the mandates of the legislation.

What concerns me still is what the Coast Guard attitude is in terms of speeding along in this area. For example, I'm still very unclear, unless I missed it in your testimony, as to what the position of the Coast Guard is on double bottoms. The March 2, 1976, testimony before the Senate Commerce Committee really did not give us a position. Has a position been finally, firmly laid out on double bottoms?

Admiral Benkert. I think the position that has been voiced is what the Presidential message says. It says, and our understanding of this is, that we will within 60 days put out a regulatory proposal which would require double bottoms on all tankers of over 20,000 dead weight tons, U.S. flag and foreign flag entering our waters—new tankers. Our position, further, as voiced in the Presidential statement, is that there will be some time element involved for the implementation of this and that the purpose of the time element will be to approach the international community through IMCO in order to achieve an international agreement in this vein.

The President's message also says that the rule should allow the adoption of technological improvements and alternatives which can be shown to accomplish equivalent pollution protection.

Mr. Moffett. Has it been determined what the time frame is during which all of this should be done?

Admiral Benkert. I think the overall time frame that is mentioned in the President's message is a 5-year period of time.

Mr. Burton. Would you yield, please?

Mr. Moffett. Surely.

Mr. Burton. What could be done now? We are going to achieve this in 5 years—that's a lot of oil—what type of protections can be accomplished now, in your judgment?

Admiral **Benkert**. I think what will be done very rapidly are a number of things that we have had in progress already, and several of the items that are additionally specifically mentioned in the President's message.

For example, I think one of the items that the President has indicated here is the installation of inert gas systems on all crude tankers. We have been developing this. We have in place right now regulations for certain vessels to which this applies. We will be expanding this very rapidly in a regulatory form to put this into effect. The requirements that are indicated in the President's message for backup radar systems with collision avoidance equipment—we already have a proposed rulemaking in the final stages of development. We anticipate this to be out probably within 1 month as a proposal.

The improved emergency steering standards—we are examining this from two aspects, one of them being the physical aspect of equipment which we will have positive action on in the near future. The other one is a manning concept for emergency steering stations which we are looking at the applicability of. These are areas where we can and intend to proceed very rapidly.

We also have a number of other regulatory actions which are contemplated. For example, we have a regulation proposal on qualifications of tankermen which is in its final stages of preparation and will be published probably by April 1.

Mr. **Burton**. Instead of taking any more of Mr. Moffett's time, if it would be possible for the Coast Guard to let the committee know the type of things that can be done fairly expeditiously and then the ones that are going to take a period of time.

[The information referred to follows:]

Mr. Chairman, in answering your question, I will address the measures as they are mentioned in the Presidential message in turn.

RATIFICATION OF THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS

Implementing legislation is undergoing final review and will be transmitted to the Congress in the near future. The Convention itself is scheduled to be transmitted to the Senate in late March 1977.

Reform of ship construction and equipment standards

Regulations applicable to the standard mentioned in the message are now being drafted and will be published as a notice of proposed rulemaking on or before May 16, 1977.

Diplomatic efforts to improve the present international system of inspection and certification have begun. U.S. representatives are meeting in April 1977 proposing the following action by the Maritime Safety Committee (MSC) of IMCO:

That the MSC begin consideration of the U.S. proposals dealing with inert gas systems, backup radar with collision avoidance equipment, and improved emergency steering standards. (Note: At the forthcoming Maritime Environmental Protection Committee (MEPC) session, the United States will formally propose that the MEPC deal with the proposal for double bottoms and segregated ballast.)

That the MSC consider the method of improving the present system of tanker inspections and certifications.

That a special preparatory conference consisting of a joint session of MSC/MEPC be held this autumn to further consider the U.S. proposal and prepare the necessary draft instruments as appropriate.

Specifically, the United States suggests the following schedule of events:

Special preparatory conference—5-16 September 1977.

Plenipotentiary conference—5–16 December 1977.

That MSC recommend that the 1978 Conference on Standards of Training and Watchkeeping be held early in 1978 and that the 10th session of the subcommittee on training and watchkeeping rescheduled to an earlier data accordingly.

Improvement of crew standards and training

In addressing licensing and qualification standards for American crews; the Coast Guard is proposing to issue amending regulations governing the qualifications of personnel involved in the handling and transportation of dangerous cargoes in bulk aboard ships and barges. The entire existing "tankerman" regulatory scheme, although completely adequate in the past, has not kept pace with the trend toward present day operations. It is considered that licensed officers no longer will be qualified as tankerman simply by virtue of holding a license. In addition to successfully completing an approved course in firefighting training in order to qualify as a "Tankerman", all applicants, including unlicensed personnel will have to show service under supervised conditions, and complete a Coast Guard approved training course or pass a written Coast Guard examination. The target date for this proposal is April 25, 1977 for a Notice of Proposed Rulemaking (NPRM).

Because of the complexities and vagaries associated with the maneuvering characteristics of large vessels, the Coast Guard is also considering a requirement that all Masters and Chief Mates of U.S. merchant vessels of more than 35,000 gross tons satisfactorily complete a course of instruction on a shiphandling simulator prior to their assignment to the ship. Although this proposal is still in the formative stages, it is presently envisioned that the shiphandling simulator and the instruction outline will be approved by the Commandant prior to its operation. A NPRM should be published May 1977.

The Coast Guard is also proposing to issue amending regulations pertaining to the qualifications necessary for obtaining a "Radar Observer" endorsement on a deck officer's license. It is considered necessary that more emphasis should be placed on requiring deck officers employed on vessels of more than 300 gross tons to actually demonstrate important skills, such as radar operation and interpretation, instead of relying on written examinations. Therefore, an applicant for an original or renewal (every 5 years) of a "Radar Observer" endorsement will be required to satisfactorily complete a Coast Guard approved radar training course which includes simulator training, in lieu of taking a written examination administered by the Coast Guard. The NPRM is planned for May 1977.

Additionally, the Coast Guard is proposing to issue amending regulations governing the qualifications of personnel involved in the piloting of vessels required to be under the control and direction of pilots licensed by the Coast Guard. The qualification standards for Coast Guard licensed pilots have, to date, provided qualified personnel to navigate vessels on routes requiring Federal pilots. It is considered, however, that with the increasing traffic of ever-larger vessels and the attendant safety and environmental considerations resulting from this traffic, additional personnel training, both practical and through the use of appropriate operational simulators, is required to maintain the level of personnel capability necessary. The NPRM is planned for May 1977.

Regarding the international requirements for crew qualifications, the Coast Guard has delegated an officer to serve as the U.S. delegate on the Intergovernmental Maritime Consultative Organization (IMCO) subcommittee on Standards of Training and Watchkeeping. This subcommittee has drafted a Convention for presentation to a conference schedule to be held in 1978. In addition, the Coast Guard has been directed by the President to review the entire draft convention and appendixes to identify those areas where additional requirements should be proposed for consideration at the scheduled conference. The draft convention includes qualifications for approximately all ratings and licensed merchant marine officers. (See appendixes.)

Development of a tanker boarding program and U.S. Marine safety information system

As directed, a Tanker Boarding Program to examine each foreign flag tanker calling at American ports has been started. The plans for both the Boarding and the Safety Information Program are detailed in the attached question and answer commentary.

Approval of comprehensive oil pollution liability and compensation legislation

Legislation was transmitted to the Congress on March 18, 1977.

Improvement of Federal ability to respond to oil pollution emergencies

Near term (Fiscal Year 1977–78) efforts will focus on three primary areas: Upgrading the number and quality of CG personnel trained to respond to pollution incidents, to increase the Coast Guard's inventory of state of the art pollution response equipment, and to provide technological assessments required to manage the Federal pollution response effort more effectively. In this latter effort, studies will be conducted to inventory and catalog existing equipment in the private sector, to assess the probabilities of response requirements for catastrophic spills, and to determine optimal equipment siting plans.

Long term The Coast Guard is embarking on an accelerated Research and Development program to improve the methods and equipment available to respond to major discharges. Procurement of operational equipment resulting from this development is planned to commence in Fiscal Year 1979 and will be phased over a 7-year period. The major items will be devices to contain and recover oil in fast current, high seas, and cold weather environments.

Admiral BENKERT. May I just throw one more thing in, Mr. Chairman, on the personnel end of this because I do think this is very important.

One of the things, of course, that is very extensively discussed in the President's message is caliber, capability, and qualification of personnel. We are pursuing this very strongly both in national regulation and in the IMCO forum. We intend to fully follow out the President's direction looking toward a more rapid and more full implementation of international agreement in this arena.

Mr. BURTON. Thank you.

Mr. MOFFETT. I have some other questions, Mr. Chairman, but out of respect for the other members of the committee perhaps I can ask them later.

Mr. BURTON. Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

Admiral, how many people are authorized for the port safety and security and marine environmental protection duties? You say about approximately 1,600; how many are authorized totally there?

Admiral BENKERT. I could give you that figure, sir. That figure is reasonably correct. We can give you something for the record exactly.

[The information follows:]

Considering Coast Guard multimission requirements, the number of field personnel employed to carry out port safety security and marine environmental protection functions is 1,418 in Fiscal Year 1977.

Mr. STANGELAND. How many would be required to fulfill the President's request for tanker boarding programs at least once a year?

Admiral BENKERT. What we have presently anticipated is somewhere around 125 additional people spread over a 3-year period. Obviously we cannot train our people for proper qualification for this type of work instantly. My understanding is that we are going to get the authorization for 50 additional personnel very rapidly. We hope to get over this 3-year period somewhere around 125 to 130 people. That's our estimate of what we would need to follow through fully on this boarding program for the foreign flag tankers.

Mr. STANGELAND. From 1973 to 1975 there were 10,457 civil penalties assessed. How many of those were in U.S. vessels and how many were in foreign vessels?

Admiral BENKERT. We can provide that for the record if that is satisfactory. Captain Schubert can maybe find it but we can provide it for the record.

Mr. BURTON. Without objection, your statistical material will be inserted in the record at this point.

[The information referred to follows:]

The number 10,457 represents the total number of civil penalties assessed by the Coast Guard under section 311(b)(6) for illegal discharges of oil into the waters of the United States or contiguous zone from any source. United States tankships accounted for 724 of these penalties, foreign tankships accounted for 702. Vessels, other than tankships, land based facilities and offshore production facilities and pipelines account for most of the remaining 9,000 penalty cases. An additional 87 civil penalties were assessed against foreign tankships for violations of Coast Guard issued safety and pollution prevention regulations; eight such penalties were assessed against U.S. flag tankships.

Mr. STANGELAND. In the President's message he says in talking about crew standards and training that you are going to identify all requirements and if these are not included in the 1978 convention—if these are not agreed to by these other tanker nations—the United States should impose on crews of all ships entering U.S. ports the same requirements that we require of our own. Is this going to be feasible and is it going to preclude bringing oil in here in foreign vessels? Is it going to make our standards excessive to a point where we don't or we won't be bringing in oil in U.S. vessels? How does this work?

Admiral BENKERT. I would say this, Mr. Stangeland. What this really means is that as you stated we would hope to get international agreement on qualifications and capability of personnel through the medium of this 1978 convention. I have been much involved in the development of this convention. I think that we are going to get a good agreement internationally on personnel qualifications which most of the countries involved in the marine business are going to live with and are going to upgrade their personnel qualification and caliber requirements.

If this were not to be the case and we were not satisfied with the results I would presume then that action would be to implement certain requirements over and above what might be internationally agreed upon unilaterally. I would hope that we would not have to do this and I would hope that the international community will be agreeable to this. My feeling is that they will be agreeable. We are not the only country by any means which is concerned about the quality of people manning ships. Most of the major maritime countries today have good standards for their personnel. There are some that do not. Their standards may be good but their enforcement perhaps has been lax.

I would hope that through the medium of this Presidential message and our efforts in the IMCO forum that we can upgrade this.

Roughly 85 percent of our accidents worldwide happen either because of human error or human misjudgments, and in some cases, poor qualifications or poor actions on behalf of personnel. We are not the only country that is well aware of this and is making moves to try and eliminate this to the best extent that we can.

Mr. STANGELAND. That was going to be my next question.

You say 85 percent of the accidents is the result of personnel as opposed to equipment.

Admiral BENKERT. Yes, sir.

Mr. STANGELAND. No more questions.

Mr. BURTON. Before the Chair recognizes the gentleman from Texas, I have one question.

Earlier you mentioned consulting with various groups. Can you tell us briefly how you do that? You do consult with industry, I would assume; do you also consult with environmental groups?

Admiral BENKERT. Yes, sir.

Mr. BURTON. Is there an ongoing process by which they can have an impact on you aside from the rulemaking process?

Admiral BENKERT. Yes, sir. For example, in the formal rulemaking process itself I am sure you are aware of the Administrative Procedure Act and the extensive consultation that goes on in that particular arena—comments, the public hearings, and so forth. We also have in the Coast Guard in developing our positions relative to international conferences or in developing our positions relative to national regulation—we have a number of advisory committees. Some of them come under the Shipping Coordinating Committee of the State Department, some of them are directly in an advisory pattern to the Commandant of the Coast Guard. All of these groups have representation from the public, from environmentalists, from technically competent personnel. In several of them we have specific representation from labor unions so that through this medium we feel that we do get full consultation..

[The charter of the Shipping Coordinating Committee follows:]

CHARTER

of the

SHIPPING COORDINATING COMMITTEE
(SHC)

I. PURPOSE

The Shipping Coordinating Committee (SHC) is an advisory committee chaired by the Department of State. The purposes of the Committee are as follows:

(1) With regard to matters coming before the Intergovernmental Maritime Consultative Organization (IMCO), relating primarily to safety of life at sea and to marine pollution from ships, to (a) ascertain the views of interested government departments and agencies and industry associations; and (b) make recommendations to the Secretary of State for the guidance of United States delegations to the IMCO Assembly and United States representatives at meetings of the Council, Maritime Safety Committee, and other subsidiary organs of IMCO;

(2) to perform similar functions with regard to other matters relating to international shipping where advice and assistance is required by the Secretary of State; and

(3) to coordinate United States positions on issues that may arise in connection with United States participation in the Ocean Dumping Convention.

II. AUTHORITY

A. The SHC was inaugurated in August, 1958, deriving its authority from the Department of State. It is established under the general authority of the Secretary of State as set forth in Title 22 of the United States Code, in particular

Section 2656 of that Title. The approval of this Charter by the Deputy Under Secretary for Management constitutes a determination by the Secretary that the establishment of the Committee is in the public interest in connection with the performance of duties imposed by law on the Department of State.

III. RELATIONSHIP WITH OTHER BODIES

A. Interested Government agencies and bureaus regularly attend meetings. A representative group of private organizations in the maritime and related fields attend meetings of the SHC and its subcommittees as public members.

IV. ORGANIZATION

A. The Committee will have two officers. It will include public representatives such as those from the maritime industry and unions, as well as other interested organizations and individuals such as environmental groups. All USG agencies normally interested in shipping will send representatives to SHC meetings, and agencies not normally concerned with shipping matters will be invited to send representatives when committee meetings concern them.

(1) The officers will be --

Chairman - Director, Office of Maritime Affairs, Department of State

Executive Secretary - Adviser, Office of Maritime Affairs, Department of State

(2) A member vacancy will be filled by that department, agency or organization which had been previously represented.

(3) All staff support functions required for operation of the Committee and the subcommittees thereunder will be supplied by the Office of Maritime Affairs.

B. The Committee will have seven subcommittees, their roles defined below:

(1) United States National Committee for the Prevention of Marine Pollution -- To ascertain views and make recommendations consistent with paragraphs (1) and (2) of Article I of this Charter in the specific area of marine pollution. The Chairman of this Subcommittee will be the Commandant of the Coast Guard.

(2) Subcommittee on Safety of Life at Sea -- To ascertain views and make recommendations consistent with paragraphs (1) and (2) of Article I of this Charter in regard to the operation, amendment and drafting of international conventions dealing with safety of life at sea. The Chairman of this subcommittee will be the Commandant of the Coast Guard.

(3) Maritime Law Subcommittee -- To ascertain views and make recommendations consistent with paragraphs (1) and (2) of Article I of this Charter, in the area of maritime law. The Chairman of this Subcommittee will be the Assistant Legal Adviser for Economic and Business Affairs, Department of State.

(4) Subcommittee on Tonnage Measurement -- To ascertain views and make recommendations consistent with paragraphs (1) and (2) of this Charter in regard to international agreements concerning tonnage measurement. The Chairman of this subcommittee will be Chief, Merchant Marine Safety, United States Coast Guard.

(5) Special Subcommittee on Casualties -- To ascertain views and make recommendations consistent with paragraphs (1) and (2) of this Charter in the area of marine casualties. The Chairman of this subcommittee will be the Chief, Merchant Vessel Inspection Division, U.S. Coast Guard.

(6) Subcommittee on the Code of Conduct for Liner Conferences -- To ascertain views and make recommendations consistent with paragraph (2) of this Charter in regard to the proposed Code of Conduct for Liner Conferences being considered under the aegis of the United Nations Committee on Trade and Development (UNCTAD). The Chairman of this subcommittee will be the Adviser, Office of Maritime Affairs, Department of State.

(7) Committee on Ocean Dumping -- To ascertain views and make recommendations in regard to U.S. participation in the Ocean Dumping Convention as provided in paragraph (3) of Article I of this Charter. The Chairman of this subcommittee will be the Administrator of the Environmental Protection Agency or his designated representative. Membership will include public and private organizations or individuals with an interest in ocean dumping.

C. The Committee will create other subcommittees as it deems necessary. Working groups of standing committees will be created and will meet at the call of the subcommittee chairman responsible.

D. The membership of the various subcommittees and working groups is not formal but is derived from the general membership of the Committee and subcommittees, respectively.

V. OPERATIONS

A. The Committee officers will have the following responsibilities:

(1) The Chairman will approve the agenda for the meetings and will convene, preside, and adjourn all meetings;

(2) The Executive Secretary will inform all members, public members and invitees of the date, place and time of each meeting and its agenda; will prepare the minutes of each meeting, which shall as a minimum contain a record of the persons present, members of the public who participate at meetings and the interest or affiliations they represent, a description of matters and materials discussed and conclusions reached, including rationale for recommendations made, and copies of all reports received, issued or approved by the Committee. Additionally, the Executive Secretary, in the absence of the Chairman, will act as Chairman.

(3) The Chairman will certify to the accuracy of all Committee minutes.

B. The committee will meet approximately six times per year prior to the meetings of the IMCO Assembly, Council and Maritime Safety Committee; and prior to other international meetings as necessary so as to discuss and make recommendations to the Secretary of State for the guidance of the United States delegations at those meetings. No quorum is necessary.

C. The function of the public members will be solely advisory, and any determinations of action to be taken as a result of the work of the Committee will be made by the Chairman or other appropriate full-time salaried Governmental officials.

D. The Committee will report to the Assistant Secretary of State for Economic and Business Affairs through the Deputy Assistant Secretary for Transportation, Telecommunications and Commercial Affairs. The method of reporting will be verbal and/or written.

E. The Committee records will consist of all papers and documents pertinent to the Committee's establishment and activities, including its charter, agenda, determinations for closed meetings, summary minutes and all documents related to Committee proceedings, its roster and all communications between the Department and the Committee members, and all written materials and reports considered and/or issued by the Committee.

F. The Committee may, for its effective functioning, receive, compile, and discuss data and reports showing the current or projected commercial operations of identified business enterprises.

G. The various subcommittees will meet at the call of its respective Chairman, an estimated one to six times a year, prior to the meetings of international organizations about which the subcommittees are concerned so as to discuss and make recommendations to the Secretary of State for the guidance of the United States delegations to those meetings. No quorum is necessary.

H. All subcommittees and working groups will operate under the general rules of procedure set forth herein for the Committee itself.

VI. FUNDING

A. All funding necessary for the organization and operation of the Committee shall be supplied from the Salaries and Expenses allotment of the Assistant Secretary for Economic and Business Affairs.

B. Necessary expenditures of funds shall have the personal approval of the Deputy Assistant Secretary for Transportation, Telecommunications and Commercial Affairs.

C. The public members of the Committee and its subgroups will serve without compensation.

D. The Committee has an annual estimated Federal Staff support of less than one person-year and an annual estimated operating cost, including salaries, of less than $30,000. The Committee's subgroups have a total estimated Federal Staff support of less than two person-years and an annual estimated operating cost, including salaries, of less than $60,000.

E. Each subcommittee described in paragraph B of Article IV of this Charter has an estimated annual Federal Staff support and estimated annual operating cost, including salaries, as follows:

(1) United States National Committee for the Prevention of Marine Pollution -- less than one-third of one person-year and less than $10,000;

(2) Subcommittee on Safety of Life at Sea -- less than one-quarter of one person-year and less than $8,000;

(3) Maritime Law Subcommittee -- less than one-quarter of one person-year and less than $8,000;

(4) Subcommittee on Tonnage Measurement -- less than one-quarter of one person-year and less than $8,000;

(5) Special Subcommittee on Casualties -- less than one-quarter of one person-year and less than $8,000;

(6) Subcommittee on the Code of Conduct for Liner Conferences -- less than one-quarter of one person-year and less than $8,000;

(7) Committee on Ocean Dumping -- less than one-third of one person-year and less than $10,000.

VII. TERMINATION

A. In accordance with P.L.92-463, Section 14.(a)(1)(A), the Committee will terminate two years from the date of this Charter, unless it is formally determined to be in the public interest to continue it for a period of another two years.

VIII. ACCESS OF PUBLIC TO COMMITTEE

A. Meetings of the Committee will be announced in the Federal Register and by Department of State Press Releases at least fifteen days prior to convening a meeting. Meetings of Subcommittees and working groups will be similarly announced.

B. The notice in the Federal Register and the Department of State Press Release will give the hour, date and place a meeting will be held and the agenda of items to be discussed. Additionally, all members, public members and invitees will be informed of the above by the Executive Secretary.

C. Members of the general public who wish to attend a meeting will be admitted up to the limits of the capacity of the meeting room.

D. When it is formally determined that it is in the public interest, as related to 5 U.S.C. 552(b), not to disclose the Committee's deliberations, the notice in the Federal Register and the Department of State Press Release announcing the meeting will so state and omit the agenda. On and after March 12, 1977, the basis for not disclosing the Committee's deliberations will be 5 U.S.C. 552b.

Now, thereby, this Charter shall be considered filed as of this date and copies shall be provided to the appropriate standing committees of the Senate and the House of Representatives, having legislative jurisdiction for the Department of State, and to the Library of Congress pursuant to the provision of said Act.

APPROVED
Lawrence S. Eagleburger
Deputy Under Secretary
for Management

DATE Dec. 21, 1976

Mr. Burton. Fine, thank you. How often do you see Members of Congress actually involving themselves in the rulemaking process? When you have public hearings, for example, how often do you see them?

Admiral Benkert. I think we see staff personnel fairly frequently, Members of Congress specifically, not so often. We see staff personnel very frequently.

Mr. Burton. Thank you. The Chair recognizes the gentleman from Texas, Mr. Hightower.

Mr. Hightower. I have no questions, Mr. Chairman.

Mr. Burton. The Chair recognizes the gentleman from Indiana, Mr. Evans.

Mr. Evans. I would like to ask exactly what amount of money you are currently spending in terms of enforcement for these vessels entering U.S. waters?

Admiral Benkert. I would have to give you that for the record.

Mr. Evans. Yes; and if you could give me an approximation——

Admiral Benkert. It is a very difficult figure to give you and I'll tell you why. Our people in Coast Guard headquarters and our people in our field offices are what we call multimission personnel. In other words, if we have a marine inspection office like our office in New York where we have something like 60 officers and a number of enlisted men, several hundred, dealing with one facet or another of this whole area—vessel inspection, safety inspections, pollution prevention, port safety work—many of these people are interchangeable. One day they may be doing one kind of job—another day they are doing another kind of job all within this marine safety arena. It's kind of difficult to say we are spending this many dollars to do this much in a particular program. We can give you some figures.

We have some here on paper but they incorporate dollar figures for various fiscal years in these three programs. These are personnel reports. Personnel costs in the commercial vessel safety program—we are spending some $10,660,000 this year—in the port safety program a very comparable figure, a little over $10 million. Directly in the environmental protection program we are spending $6 million. I think that you do have to temper those figures and sort of add them all together because they are all pregnant to the marine safety functions.

Mr. Evans. Thank you.

Do you look at your present budget as being inadequate? To what extent does that budget need to be elaborated on?

Admiral Benkert. I would say simply in line with the President's initiatives we do need additional personnel for enforcement work. We do not have enough personnel to fulfill entirely what is contemplated in this program. I think the Office of Management and Budget and our department and everybody concerned is prepared to augment our forces in that regard.

Mr. Evans. What would your request be—125; is that what you think you will end up with? Is that too many, too few?

Admiral Benkert. We have already asked for this number of people over the period of time.

Mr. Evans. You have asked for 125 over 3 years?

Admiral Benkert. Yes, sir, I think it was 128 or 130 but in round figures that is what was asked for—strictly for the enforcement concept of dealing with foreign flag tankers.

Mr. Burton. Did you ask for that before or after the President's message?

Admiral Benkert. I think this number has been in generation for approximately some 3 to 4 months now, looking toward some augmentation of our forces for enforcement.

Mr. Burton. You started with 125 having a feeling that you were going to get this new responsibility?

Admiral Benkert. Yes, sir, as far as the foreign flag tanker boarding program.

Mr. Evans. I think the hand of OMB is long indeed under Mr. Lance also. I will accept those figures.

You said that only about 12 percent of the vessels are boarded although your policy aims at about a 20- to 25-percent boarding rate. Do you think that that additional 125 personnel will give you that capacity to double your boarding rate?

Admiral Benkert. I think so. You must remember that when we talk about boarding of tankers today we are talking about several different things. We are talking about boarding of tankers in a monitoring of cargo handling procedure. We are talking about boarding of tankers in an examination of them for compliance with the oil pollution regulations which we have been doing 100 percent. We are also talking about the boarding of foreign tankers for observation of safety problems—the program that I mentioned a little earlier that we started several months ago and which we would intend to amplify in compliance with the President's directive. Those are several different types of approach to the same vessels.

Mr. Evans. Your boarding policies, inspections, so forth, are oriented primarily toward safety inspection; is my understanding correct that it is primarily port oriented? Is that the only feasible way to go about this? Where is this boarding taking place and where should it be taking place for this protection?

Admiral Benkert. I think it is taking place where it should and where we can legally implement this type of program.

Mr. Evans. That is in the ports?

Admiral Benkert. In our ports. We do some boarding while vessels are at anchor. We do some boarding—the majority of them—are done dockside.

Mr. Evans. Your enforcement authority extends where—to the 3-mile limit, to the 12-mile limit—since we have so many limits these days exactly where does that begin?

Admiral Benkert. I guess it depends on which statutes you are talking about. I would defer to my legal colleague here, if I might.

Mr. Burton. Would you identify him for the record?

Admiral Benkert. Yes, sir.

Commander Burgess. I am Commander Burgess.

Admiral Benkert. Commander Burgess is attached to our chief counsel's office, Mr. Chairman.

Commander Burgess. As Admiral Benkert said, depending on which statutes you are talking about you have different enforcement areas. Under the Federal Water Pollution Control Act we have authority up to 12 miles. The safety statutes we have apply in our navigable waters which is within our 3 miles. Our normal boarding process in terms of implementation of regulation and statutes is done within our navigable waters and normally within our ports, either at the dock or at anchor or in some cases when the vessels are, in fact, underway in our navigable waters.

Mr. Evans. If you could supply for my information and perhaps the rest of the committee as to exactly at what distance these various statutes—which you are charged with enforcing—are implemented. Would you please do that? If you could give us some of the conflicts within these laws. It's perhaps something the subcommittee may want to consider later on.

That ends my questioning here.

Mr. Burton. Without objection, the material will be inserted in the record at this point.

[The information referred to follows:]

The Oil Pollution Statutes and their Jurisdictional Distances are:

Title and distance	*Miles*
(1) The Ports and Waterways Safety Act (territorial waters)	3
(2) The Refuse Act of 1899 (territorial waters)	3
(3) The Tank Vessel Act (territorial waters)	3
(4) The Federal Water Pollution Control Act (contiguous zone)	[1] 12
(5) The Oil Pollution Act 1961 (U.S. vessels) (prohibited zone) The International Convention for Prevention of the Sea by Oil 1954 (Foreign Vessels)	50

The conflicts are overlapping jurisdiction.

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[1] Authority over nontransportation related facilities extends only to the limits of territorial waters—3 miles.

COAST GUARD AUTHORITY AND RESPONSIBILITY FOR VESSEL BOARDINGS, EXAMINATIONS, INSPECTION, AND DETENTIONS

Type of activity	Statutory authority	Regulatory authority	Intra-Coast Guard responsibility
SIV boardings	50 U.S.C. 191	National Security Council Decision Memorandum.	COTP—G-W, G-WLE, G-WLE-1 (CG Org. Man., II-230, 243, 244). (II-244: "administer the Special Interest Vessel program").
Dangerous cargo boardings	46 U.S.C. 170, 49 U.S.C. 1801-12	46 CFR 146-8, 49 CFR 1.46(f), 49 CFR 171-177.	COTP—G-W, G-WLE, G-WLE-1 (CG Org. Man., II-230, 243, 244). (II-244: "the boarding of dangerous cargo vessels for regulation compliance").
Tank vessel boardings	46 U.S.C. 391a, 33 U.S.C. 1221-7, 46 U.S.C. 1970.	33 CFR 164, 46 CFR 35	COTP—G-W, G-WLE, G-WLE-1 (CG Org. Man., II-230, 243, 244). (II-244: "Enforcement of tank vessel regulations, including inspection aboard ships for compliance").
Letter of compliance boardings		46 CFR 154	COTP/OCMI—Same as Tank Vessel Boardings plus: G-M, G-MHM, G-MHM-1 (CG Org. Man., II-139, 144, 147). (II-144: "Administer and coordinate a program of foreign vessel inspection, including issuance of letters of compliance, for vessels carrying bulk hazardous cargoes which create potential unusual risks to life and property.").
Pollution prevention boardings	33 U.S.C .1321, et seq	33 CFR 151-9	COTP—G-W, G-WEP, G-WEP-3 (CG Org. Man., II-240, 241). (II-241: "Develop policy and issues directives and regulations setting forth standards and requirements for: Pollution Prevention; Enforcement of pollution laws and regulations").
SOLAS examinations	SOLAS Convention, 1960, 46 U.S.C. 362		OCMI—G-M, G-MVI, G-MVI-1 (CG Org. Man., II-139, 158, 159). (II-159: "Prepare designated SOLAS safety certificates and exemption certificates").
Merchant vessel inspections	46 U.S.C. 361-436	46 CFR 2, 31, 71, 91, etc	OCMI—G-M, G-MVI, G-MVI-1 (CG Org. Man., II-139, 158, 159). (II-159: "Develop procedures for the required inspections of all U.S. and foreign vessels").
Vessel detentions and entry denials.	50 U.S.C. 191, 33 U.S.C. 1221-7	33 CFR 6, 33 CFR 160	COTP—G-W, G-WLE (CG Org. Man., II-230, 243). (II-243: "Direct the activities of the Captain of the Port program").

Admiral Benkert. I might add, Mr. Evans, that it does present some problems when you start talking about foreign flag vessels and the applicability of statutes to those vessels. In addition we have the present ongoing law of the sea deliberations which our State Department and our Administration are very deeply involved in with the international community. This in the long run may have some very definite effect on enforcement and statutory authority depending upon territorial waters and other types of limitations of areas of jurisdiction.

Mr. Evans. Thank you, Admiral.

Mr. Burton. Mr. Walker.

Mr. Walker. Thank you, Mr. Chairman.

At least in the public perception it seems to me that the whole business of oil spills has taken on an increasing amount of attention in recent months—let's say over the last 2 years. Is that a media created kind of thing or have we had more problems with oil spills; has there been a quantitative increase in the last 18 to 24 months?

Admiral Benkert. I think that probably our statistics would show that we have had—and they may not be too valid in this respect—but we have had increases in the number of spills within our navigable waters. But you have to temper these statistics with the fact that up until roughly the last 3 years we haven't had any good statistics at all on oil spills in our waters. It was not until the passage of the FWPCA and the implementation of that act that we started keeping good records and that we had a true handle on this situation. I must say—and this is purely a personal view—I think that there has been through the media, and perhaps rightly so, an increased awareness of oil pollution problems. I do feel myself that some of the situations that have arisen have been blown out of proportion as to what they have really amounted to.

Mr. Walker. Does it seem logical that before we embark upon a program of some sort that we ought to be doing some studying if, in fact, there has been an increase over the last few months? Would it seem logical that we ought to be trying to figure out just exactly why there has been an increase all of a sudden? Maybe you have those kinds of answers. Is it because we are importing more oil or is it because the equipment that has been around for 20 or 25 years is wearing out and is more susceptible to oil spills? What kind of monitoring have you done as to the reason why—within the last several months—there seems to be more of a problem within our navigable waters?

Admiral Benkert. I think that one of the things that you must take into account within this last several months is the fact that we have had a very severe winter this year. Some of the casualties which have occurred either in or near our waters that have received a great deal of publicity have been the result of severe weather conditions. The winter has been abnormal.

Mr. Walker. You mentioned before 85 percent human error. Is the weather condition the net result of greater human error or greater equipment failure?

Admiral Benkert. I would say that several of the casualties have been directly as a result of human error. The most publicized being the case of the *Argo Merchant* which, in my opinion, is a pure case of poor navigation on the part of the personnel aboard the vessel.

We have had other vessels in this period of time that you mentioned where we have had casualties that have been a direct result of the weather and not of personnel. We've lost several ships off the east coast—not U.S.-flag vessels, foreign-flag vessels. In our inland waterways we have had a number of spills from barges and so on which have been the direct result of weather problems.

Mr. WALKER. What I'm getting around to is if you have this much human error that we see just beginning to increase—we have problems connected with the weather but that may be in a large part because of inexperienced crewmen—is this directly related to the fact that we are increasing the amount of foreign oil that is coming into this country? Has this resulted in foreign governments having to put on more crews which result in more inexperienced people manning these crews?

Admiral BENKERT. No; I don't think so. I wouldn't say there was a direct correlation to that last statement that you made. It is certainly a fact that we are importing far more oil today than we were 2 or 3 years ago. Our importation of oil today has practically doubled in that time from foreign sources.

I would say this. This whole question of personnel in the marine business is a very difficult subject to tackle in a sense of either regulation or law. It's a matter of training and a setting up of qualifications, enforcement of that, a sticking to that requirement, and professional integrity of the personnel involved.

Over the last 4 to 5 years we have been engaged in a great deal of research work within the Coast Guard and in other areas—the National Academy of Sciences, the Maritime Administration—here in this country and in other countries. The IMCO forum has made a number of studies on personnel and one outgrowth of these studies is this convention which we have coming up this next year. We fully anticipate this will home in on this business of personnel qualifications to set better standards.

The personnel problem is very difficult to get a handle on. We know what the problems are in that accidents are caused by people. We are trying to alleviate this by increasing our requirements but, perhaps more importantly, increasing the training of personnel. In this country the Maritime Administration, as an example, in conjunction with the Coast Guard, has augmented and is amplifying our programs. We are looking toward such things as simulator training for bridge personnel.

We have in recent years developed in some of our labor organizations, and some of our management people who operate vessels have developed their own training means for their own personnel. We think that this is the answer and this is what our research in this area is showing us. This is a very difficult problem.

Mr. WALKER. Do I understand you correctly to say that you don't think there is any correlation between the amount of oil spills and the amount of oil that we are shipping into the country?

Admiral BENKERT. I think your risk increases because if you import—let's put this way. In the United States because of the shallow depth of our ports you have limitations on the size of vessels than can enter U.S. ports. If you double your oil which you import essentially this means you are doubling the number of visits of vessels which can and do visit our ports—particularly where you are talking about the importation of oil. If you do this you are going to get a greater amount of traffic and with a greater amount of traffic you obviously have a greater risk of both personnel type casualties and casualties predicated upon equipment failures and so forth. Just by virtue of pure percentage you are bound to get more.

This has been shown by our groundings, for example. We have had more groundings as the number of vessels in transit in and out of our ports has increased. I think there obviously is a relationship here.

I think there is one other thing that you have to say on this. When you talk about importing oil into the United States today you are talking about essentially using small vessels. I say small in terms of today's size of tankers. Big tankers cannot get into our ports. Most of the tankers that are small are older tankers because the new tankers that have been built have been big ULCC's and VLCC's made for major transfer of major amounts of cargo from the oil producing countries. In our ports we have an increase of the smaller vessel's transits and I think on that basis you are bound to have some kind of an increase in the casualty risk.

We are hopeful that the concept of deep water ports will assist in the alleviation of this problem where we can import oil with large vessels into an offshore type installation and then perhaps pipe the oil ashore. Then we would not have this increase of transit traffic actually in our ports.

Mr. Walker. So what you are saying is that the situation we find ourselves in today with the importation of oil is that what we are getting in is coming in, generally, in the older vessels—the ones that would be more prone to equipment failure if it was going to happen.

Admiral Benkert. Yes, sir.

Mr. Walker. Are you familiar at all with the breakup that took place today.

Admiral Benkert. Just what I heard from our messages and I talked to our people on this. I understand that we have a Panamanian flag tanker which was in ballast about 200 miles off Charleston which apparently broke up, perhaps as a result of an explosion.

Mr. Walker. I was just going to ask whether or not there was indication this was human error or equipment failure?

Admiral Benkert. At this point; no. Of course, it is a Panamanian vessel and it is not within our jurisdiction directly but I am quite sure that we will get the facts on this particular case.

Mr. Walker. One final thing I would like to pursue.

Do you have any responsibility at all for monitoring the offshore drilling; is that within the jurisdiction of the Coast Guard?

Admiral Benkert. Yes, sir. If you mean monitoring of the drilling processes themselves, this is under the jurisdiction of the Geological Survey.

Mr. Walker. I'm talking primarily about the spill kinds of things as they relate to offshore drilling.

Admiral Benkert. Yes, sir, we have an agreement with the Geological Survey and under statute we have a responsibility for cleanup and for an entire response capability on the Outer Continental Shelf.

Mr. Walker. Is there any research that has been done to show the potential danger that exists from oil spills from offshore drilling versus the tankers? In other words, is one more acceptable than the other in terms of oil spill problems?

Admiral BENKERT. I think Captain Schubert might like to answer that. I don't know what he is going to say but I don't think we have done anything along that line. We do have a very good record as far as spills are concerned with the immense amount of drilling that has been done in the Gulf of Mexico.

Mr. WALKER. So what you are saying is that it would appear that the offshore drilling is more acceptable environmentally than the tankers are?

Captain SCHUBERT. If I could expand upon that a little bit.

First of all, I know of no comparative studies between tankers and offshore operations. But our spill statistics indicate only about 2 percent of the spills that are reported come from drilling operations whereas somewhere in the neighborhood of 30 to 40 percent of the spills do come from vessel tanker related operations. So this is sort of a rough comparison as to the relative importance as far as spills go.

Mr. WALKER. Thank you, Mr. Chairman.

Mr. BURTON. Following up on Mr. Evans' questions—we inspect the ships after they have come into our ports, which means that if they had a problem coming in and broke up or had an oil spill, then that wouldn't help. If they got in without any problem then I guess that would give us information on the next time. In other words, if we were going to inspect the *Argo Merchant* when it came into port it would have been a little late.

As I understand it, I believe we have a procedure for foreign aircraft flights into this country whereby there is some inspection, for instance, at the international airport of Liberia—we can inspect the aircraft in the land of flight origin, so to speak. This would be a little bit better than waiting until it got in because if we found it was in such bad shape it might not have got here, except for its oil.

Admiral BENKERT. Personally I am not familiar with our aircraft procedures. But in the international maritime community I know that the concept of our inspection of vessels before they left the loading port to come to the United States; I'm sure this would be internationally viewed with a very jaundiced eye.

I can't answer the question except to say that in the case of the *Argo Merchant* that we had a record on this vessel of its previous violations of our pollution regulations. This vessel also had some small spill records within our navigable waters. Our intention was to board this vessel immediately upon her entry into the outer harbor in the Boston area to examine her for compliance with our regulations. If she didn't comply we were not going to let her into the port.

I must say in her particular case that an inspection of her somewhere out on the high seas or in a loading port probably would not have been very productive in a sense of alleviating the casualty because the casualty was purely one of lousy navigation.

Mr. BURTON. Under present laws, we wouldn't be able to make a determination that the skipper, the pilot, the crew were subnormal?

Admiral BENKERT. No, sir, and we would have had no evidence at all that the master in that particular case was subnormal. He was properly licensed under the rules.

Mr. Burton. Properly licensed by whom?

Admiral Benkert. This particular gentleman had a Greek license and a Liberian license. The Greek license that he held indicated that he had passed appropriate examinations and for all apparent purposes was a qualified master of the vessel.

Mr. Burton. So at least we do know what each nation's standard's are.

Admiral Benkert. Yes, sir.

Mr. Burton. Do most of the maritime nations have standards similar to ours?

Admiral Benkert. Yes; most of the major maritime countries have licensing standards which are quite comparable to ours.

Mr. Burton. That would be only for captains?

Admiral Benkert. No; this would apply to both licensed deck officers and licensed engineers.

Mr. Moffett. Would the chairman yield?

What if the *Argo Merchant* had had a qualified pilot on board? I'm sure you know about that proposal to have us put pilots on all ships entering U.S. waters.

Admiral Benkert. He wasn't in U.S. waters.

Mr. Moffett. That's what I wanted to ask you. At what point does the pilot get on board under these proposals? And in this case he wouldn't have been on board; right?

Admiral Benkert. No. Our pilots today board a vessel—there are small variations depending on the port and depending on the geographical contours. In the case of a foreign flag vessel a State pilot will, as required, board a vessel when she enters our ports. Normally they board the vessel within a very short distance from where we have switched over from the international rules of the road to the inland rules of the road. This varies depending on the geographical contours of the port approaches.

Mr. Moffett. But with regard to seamanship qualifications that the chairman mentioned—you seem to be saying you are doing all you can in that area. Isn't there much more that you could do within your present authority with regard to seamanship qualifications?

Admiral Benkert. I think we have very high qualifications for U.S. flag personnel. Most of the maritime countries of the world have very high qualifications for the licensed personnel operating their vessels.

What we could do further—if it were felt appropriate—within our navigable waters we could apply our requirements for licensing to foreign flag vessel personnel. We would have to change our laws in order to do this.

Mr. Moffett. You couldn't do that under your present authority?

Admiral Benkert. No; not exactly, because we cannot under our laws now issue—we could do something like that but we cannot under our laws now issue a U.S. license to a noncitizen.

Mr. Moffett. What if you reviewed the training and licensing standards for foreign flag vessels and made some determination about their adequacy and periodically tested representative groups to determine their compliance? I don't know about the complications that would be involved in this.

Admiral BENKERT. They would probably be very complicated. What we are trying to do is to develop an international approach to this so that the United States would be assured of the qualification and capabilities of the personnel aboard foreign flag vessels entering our waters without our having to go unilaterally making certain requirements for their personnel.

I think one of the problems is mechanically, this would be rather difficult. Furthermore, I think this can bounce back in a sense that our ships operate in foreign countries and you might get some other action on behalf of them.

Mr. MOFFETT. I know that's always the problem with unilateral action. I think the question also is how long can we afford to wait for international action if it's not going to come about; and what price are we going to pay in the meantime? We are paying one heck of a price.

Admiral BENKERT. As far as personnel are concerned you must remember that in entering our waters all foreign flag vessels get a pilot aboard them who is U.S. licensed and is operating under State authority as per our pilotage statutes. These people are highly qualified and day in and day out do a tremendous job.

We have thousands and thousands of transits of vessels in our waters under the direction of our pilots which are done with no mishaps whatsoever.

Mr. MOFFETT. I understand that. But I think that you have to get to the *Argo Merchant* type of case somehow.

Admiral BENKERT. The *Argo Merchant* happened 25 miles offshore and was poor navigation.

Mr. MOFFETT. Thank you, Mr. Chairman.

Mr. BURTON. Page 4 of the White House fact sheet—"Tanker Boarding Program" begins:

> The President is directing that starting immediately each foreign flag tanker which enters U.S. ports will be boarded by the Coast Guard and examined to insure that the ship meets all safety and environmental regulations. Tankers will be boarded at least once a year and more often if necessary. Any deficiencies will be required to be corrected. This winter the Coast Guard began a limited foreign tanker boarding program.

What will the examination be and how could foreign-flag tankers be required to correct their deficiencies?

Admiral BENKERT. I view this as an expansion of our presently existing program. As I think I stated earlier we are boarding foreign flag tankers today. We are, as far as I know, catching every one of them. We are looking at them right now specifically for pollution prevention regulation compliance. And we are looking at them for obvious safety hazards insofar as the handling of their cargo is concerned.

Mr. BURTON. You're looking beyond that certificate?

Admiral BENKERT. Yes; we are

Mr. BURTON. And if there was a deficiency, how could we require it to be corrected?

Admiral BENKERT. We are, in fact, requiring these deficiencies to be corrected either before the vessel handles cargo and discharges or before she leaves port or prior to her next return to the United States. We are and have instigated a system to backtrack on these vessels and to board them on a continuing basis.

I think we need some amplification of this. As a matter of fact, I have some of my field people coming in here during the first week of April in order to iron out some of the specifics of this program and make sure that we are complying with what the President desires here in this message.

Mr. BURTON. Just two last questions by me.

The President's fact sheet talks about the system that would allow you to find out if there is a change in the vessel name, which is sometimes an indication that it may or may not be going downhill as a vessel. Is there any way that you can find changes of insurance coverage—in other words, if they were with Lloyd's of London and now they are with Mutual of Oshkosh, or something? When you have a bad record as a driver, and probably as a ship too, the big insurance companies dump you. Then you look for anybody that would write a policy for you.

Admiral BENKERT. I think this would be very difficult for us.

Mr. BURTON. Why would it be difficult; because of the privacy of the information? I would think the records could be available. One of the questions that can be asked of each ship that comes in is what insurance they have and who it is. If it was Lloyd's of London, and then it was Lloyd's of Liverpool, and then it was Lloyd's of Dublin, and then it was Lloyd's of Oshkosh, it might indicate that some insurance companies don't view them as a good risk.

Admiral BENKERT. All I can say in response to that, Mr. Chairman, is that we are looking at it. This matter has been discussed in the interagency task force that developed the Presidential message and the initiatives that we have. But we have not resolved this problem.

Mr. BURTON. Lastly for me—in paragraph 2 on page 2—"Ship Construction and Equipment Standards"—the President lists five points. Again he says, "These requirements would take full effect within 5 years." Yet, as I remember, on four of those points you are ready to move on immediately.

Admiral BENKERT. The last three.

Mr. BURTON. The last three.

The segregated ballast is——

Admiral BENKERT. The problems of double bottoms on new tankers and the problem of segregated ballast on all tankers including retrofit on existing tankers. We are intending as indicated by the President's message to pursue this immediately internationally through the medium of IMCO looking toward international agreement in these areas.

Mr. BURTON. How many years does it take for international agreement?

Admiral BENKERT. It doesn't take too long.

Mr. BURTON. The convention only has three votes now.

Admiral BENKERT. That's true, sir.

Mr. BURTON. It needs, as I said, 12 more; and with ours 11 more, which hopefully will include 50 percent of the tonnage.

Admiral BENKERT. If we were to get agreement on this, Mr. Chairman, we would certainly strive fully as directed to obtain this within the time elements that the President has indicated here internationally.

Mr. BURTON. What if we don't get it internationally? In other words, double bottoms on new tankers is something that we could state as a policy now because we are talking about new tankers. The retrofitting changes have to be made on existing ships and certainly would take a longer period of time. But if we are talking about any new tankers constructed as of a certain date, that would take effect immediately whenever any new tankers are built.

Admiral BENKERT. Our intention, Mr. Chairman, is to follow what the President has outlined here and to put out a regulatory proposal within 60 days encompassing this concept of double bottoms on new tankers.

We would hope to put in here some kind of a time element for this in order to permit a proper approach to the international community looking for international agreement. If this doesn't pay off then my assumption is that the intention would be to go ahead unilaterally with this.

Mr. BURTON. So then it might be 2 years before we know whether or not the international approach will even pay off; right?

Admiral BENKERT. I think 2 years would probably be a fair estimate of that particular item; yes.

Mr. BURTON. I can understand pursuing it internationally, but on the other hand, given the almost 2-to-1 vote by the conference to say that you can't have any stronger standards than are agreed to by the conference, maybe they aren't that concerned about the oil spills off this country's coast. They've got a different bag to carry, and I don't know if I necessarily would enjoy them having my proxy anyway.

Admiral BENKERT. The hope, Mr. Chairman, is that in view of the increased attention that this whole thing has generated in this country and also in other countries in this interim period of time—particularly during the 3½ years that has gone since that convention was held—that we can make progress internationally in this area. Of course, that is the intent, sir.

Mr. BURTON. I hope the intentions to reduce marine oil pollution are not necessarily hanging on our hopes for making progress in the international community.

I have no further questions.

Mr. Stangeland?

Mr. Evans?

Mr. Moffett?

Thank you very much. Admiral, I wonder if it might be possible also for you to be on call in case after hearing other witnesses—maybe Wednesday—we might have some further questions?

Admiral BENKERT. Wednesday? Yes, sir.

Mr. BURTON. At this time I would like to call forward Arthur McKenzie of the Tanker Advisory Center.

STATEMENT OF ARTHUR McKENZIE, DIRECTOR, TANKER ADVISORY CENTER

Mr. MCKENZIE. It is an honor to testify before you today concerning tanker casualties and ways to improve their performance.

My name is Arthur McKenzie, director of the Tanker Advisory Center in New York. The main business of the center, of which I am the sole proprietor, is to supply computerized tanker casualty data to the industry. I have been in the tanker industry for 42 years, 11 of them serving as a seaman and officer on tankers, 28 years of shoreside service to tankers with a major oil company, and 3 years in the present position. I teach a course in petroleum tankship operations and act as a consultant.

Recent tanker catastrophes are not unexpected. They are part of an ever-growing phenomena of our industry. And unless steps are taken to reverse this trend the world will see larger and larger oil carriers involved in more and more serious casualties as the world's tanker fleet grows to meet the transportation requirements.

Last year 20 tankers, totaling 1,172,000 deadweight tons were total losses. That was nearly 50 percent more tonnage than was lost in 1975. It was six times greater than tanker losses in 1964. And 1977 is starting off with a terrible record. Four tankers have broken in two or sunk during the first 2 months, spilling 50 million gallons of oil into the oceans.

It is not necessary to flaunt any more tanker horror statistics. These hearings are evidence that the performance of tankers, at last in U.S. controlled waters, are considered unsatisfactory and must be upgraded.

We can improve tanker performance. Tankers can operate safely, economically and without polluting the environment. It is not necessary for us to reconcile ourselves to oil contaminated beaches and tar lumps floating throughout the oceans of the world. It is not necessary for the world's oceans to be the dumping grounds for over 3 million tons of oil annually from tankers, because of the manner in which they ballast and clean their tanks. Performance improvements can be achieved by altering some of the traditional ways of regulating, operating and building tankers.

The causes of tanker casualties can be broadly categorized into two groups; those that are caused by people that own or operate the tanker; and structural or mechanical failures that often occur on older vessels. It is not easy to separate the two types in many instances. I have over 19,000 tanker casualties in my files that have been accumulated since 1964. All the data was obtained from Llyod's List, the daily newspaper published by Lloyd's of London.

The following observations are based on these casualties:

First, the average tanker in the world sustains a reported casualty about once every 4 years;

Second, there are very significant differences in casualty ratios between owners;

Third, tankers that change ownership several times usually have poor casualty records; and

Fourth, serious casualties often occur shortly after a tanker has changed ownership.

Loss ratios of 15 nations with at least 1 million deadweight tons of tanker capacity are shown in the following table. I'll just quickly read this table, Mr. Chairman.

The loss ratio is obtained by dividing the total deadweight tons lost by the total deadweight tons at risk during the 13-year period shown from 1964 to 1976.

I'll be reading these in descending order and the first one is the best and the last one is the worst: Russians—no losses, percentage zero; West Germans—one loss, percentage .05; French—three losses, percentage .06; Japanese—3 losses, percentage .06; British—eleven

losses, percentage .12; American—nine losses, percentage .15; Swedish—1 loss, percentage .17; Danish—1 loss, percentage .26; Norwegian—18 loses, percentage .27; Liberian—68 losses, percentage .50; Panamanian—17 losses, percentage .51; Spanish—3 losses, percentage .58; Italian—9 losses, percentage .64; Netherland—2 losses, percentage .70; and Greek—26 losses, percentage .76.

The statistics include all tankers, ore oil carriers and bulk oil vessels of 6,000 deadweight tons and over. Data by Lloyd's List, the daily newspaper published by Lloyd's of London. Capacity of national fleets obtained from the Tanker Register published annually by H. Clarkson & Co. of London.

There were 199 total tanker losses in the 13-year period shown above. The other 27 total losses flew various flags of nations with smaller fleets. Liberia and Panama, oftentimes referred to as "flags of convenience" rank 10 and 11 in the listing. However, four traditional maritime nations have even greater loss ratios.

Bad casualty records are not limited to tankers flying flags of convenience. Some of the most modern, best equipped tankers in the world fly flags of convenience. And traditional maritime nations have their problems with poor tankers under their flag. There is a British flag tanker in operation today that was built in 1966. That tanker has already accumulated 41 reported casualties during 11 years of operation.

The following recommendations are aimed at improving the performance of tankers.

Require all foreign and U.S.-flag tankers over 10,000 deadweight tons operating in U.S.-controlled waters to:

One, provide casualty rcords to charterers and authorities.

Two, require all tanker officers and pilots to demonstrate their competency on simulators.

Three, retrofit segregated ballast tanks (SBT) on existing tankers.

Four, prohibit putting water in cargo tanks.

Five, fit double hulls on future new tankers.

The cost to the American people for adopting this program would be about 0.5 cent a gallon of oil consumed. I would like to expand on my reasons for recommending these proposals.

PROVIDE CASUALTY RECORDS TO CHARTERERS AND AUTHORITIES

If casualty records were made available to charterers and authorities it would become economically untenable for most tankers with poor records to remain in service. Charterers would seek vessels with better records. Authorities would require high-risk tankers to accept operating delays and greater assistance from tug boats, pilots, etcetera. Casualty information is maintained now by each ship classification society. This critical data should be provided to each tanker each year and become part of the official records of the vessel. At the present time this casualty data is only released if the owner gives his permission.

Four years ago the Interstate Commerce Commission forced interstate movers to provide consumers with report cards on their past performance. The carrier's performance on customer claims, accuracy of estimates, record on lateness and other standards is now a vital part of the program to improve service. The tanker industry can benefit from a similar program of providing charterers and authorities with an official picture of their past performance concerning casualties.

This simple proposal will cost the Government and the taxpayers nothing. And it will force tankers with poor records to either go out of business or take steps to improve their performance.

The credit rating of a borrower is checked by the lender before granting a loan. And so should the casualty rating of a tanker be checked by the charterer and authorities before commitments are made to carry cargoes and use our ports and waterways.

REQUIRE ALL TANKER OFFICERS AND PILOTS TO DEMONSTRATE THEIR COMPETENCY ON SIMULATORS

Officers on tankers and pilots should be required to possess a certificate of proficiency indicating they have been checked out by competent authorities on a simulator within a 2-year period. Officers of tankers and pilots earn their licenses after completing a prescribed amount of study supplemented with some actual shipboard experience. provided they pass a written examination indicating their knowledge of the professional requirements. This licensing should be supplemented with a demonstration on simulators of their proficiency to handle emergency situations.

These simulators. for deck and engine officers. are becoming more and more common in the industry. The U.S. Maritime Administration just put into operation at Kings Point a remarkable sophisticated navigation simulator that would be ideal for checking the proficiency of deck officers and pilots in navigational skills. Engineroom simulators have been recognized as useful for many years. Engineering officers assigned to the atomic powered U.S.-flag vessel *Savannah* spent many, many hours on an engineroom simulator installed at Kings Point.

Just as pilots of airplanes are checked for proficiency on simulators. so should all tanker officers and pilots be checked.

RETROFIT SEGREGATED BALLAST TANKS (SBT) ON EXISTING TANKERS

Tankers fitted with properly located segregated ballast tanks are safer vessels. The three tankers that sunk. while fully loaded. in the first 2 months of this year would probably be here today if they had been fitted with SBT. A loaded tanker with SBT will have less stress on her hull and be more capable of remaining afloat in bad weather. SBT even offers some protection against accidental pollution caused by collisions or contact with fixed objects if the hull is pierced when the SBT's are located outboard of the cargo tanks filled with oil. And existing tankers fitted with SBT discharge significantly less oil overboard performing routine tanker operations.

Three nations recently presented a study to the U.N. agency known as IMCO. recommending SBT on existing tankers over 70.000 deadweight tons and immediate investigation of the feasibility of SBT for smaller tankers. The U.S. Coast Guard presently is considering regulations requiring existing tankers trading to the United States to install SBT on vessels of 70,000 deadweight tons and over. Most tankers operating in U.S. controlled waters are less than 70.000

deadweight tons. To be effective the regulations for SBT should be extended to all tankers over 10,000 deadweight tons.

The IMCO study found that the additional freight rate required to cover the economic consequences of SBT "may on average be in the region of 15 percent."

PROHIBIT PUTTING WATER IN CARGO TANKS

Pollution from tankers starts with the practice of putting water in cargo tanks for washing and ballasting. Later, when discharging the wash water and ballast some of the oil inevitably goes overboard, to the tune of about 3 million tons annually. The tanker industry recently made a significant breakthrough in developing operational procedures that clean tanks most effectively without using water. All tankers should be required to use waterless washing procedures when cleaning tanks. And tankers with SBT should be prohibited from putting water in their cargo tanks. If a tanker finds it necessary to put water into its tanks it should be required to obtain a certificate of cleanliness of the tanks, pumps and lines from an authorized inspector.

FIT DOUBLE HULLS ON NEW VESSELS

Double hulls provide protection against accidental spills following collisions, strandings and contact with fixed objects. A recent study by a naval architect with the U.S. Coast Guard concluded 90 percent of the tankers studied would not have polluted if they had been fitted with a double bottom.

New vessels fitted with double hulls would also have segregated ballast capacity for up to 60 percent of their loaded displacement, which covers all the tanker's ballast requirements in all kinds of weather.

The United States submitted a study to IMCO several years ago on segregated ballast tankers. In the study it showed the increased cost of building and operating a 250,000 deadweight ton tanker fitted with a double hull. The increased construction cost was estimated to be 17.5 percent and the increase in required freight rate was calculated to be 17.2 percent.

I am aware of the arguments advanced in some quarters suggesting double hulls, or at least double bottoms, might be dangerous or actually increase the amount of oil spilled in the event of a casualty. I do not agree with the conclusions drawn by the proponents of those views. There are over 400 oil carrying combination carriers fitted with full or partial double bottoms. Recently several U.S.-flag tankers have been built with double bottoms. Over 500 liquefied gas carriers are in service with double hulls. I have never heard responsible authorities suggest that combination carriers or liquefied gas carriers are unsafe because they are fitted with double hulls or double bottoms. Nor have I heard them suggest these vessels pose additional pollution problems because they are so equipped. Double hulls are a safety and polllution improvement, not the reverse.

That concludes the discussion of a program to improve tanker performance. The cost of requiring tankers to meet these proposals would result in about a 20-percent increase in tanker transportation costs. At the gasoline pump the increase would average 0.5 cent per gallon. We cannot afford to reject the benefits that result from these costs.

I will try to answer any questions.

Mr. Burton. The President's proposal goes beyond the recommendations by the nations of IMCO and it is down to 20,000 tons deadweight. You are talking about 10,000. How many ships are we

Mr. McKenzie. In terms of numbers of ships I should imagine it's talking about between that 10,000 and 20,000? (See app. 1C, p. 424.) about 1,000 around the world. Fortunately enough though, Mr. Chairman, those ships are small and they do not represent a very significant portion of the total carrying capacity. I'm very, very pleased to see the President's proposal go down to 20,000 deadweight tons.

Mr. Burton. It's easy for the Interstate Commerce Commission to require their licensees to have report cards. How would this be carried out for flag of convenience or foreign-flag vessels? Would they then have to be dealt with through IMCO? Would you suggest we act unilaterally here? How could that be implemented?

Mr. McKenzie. I think it could be handled very easily and unilaterally, Mr. Chairman, in the same manner we have handled other marine matters unilaterally. To me it would be as simple as passing a regulation that stipulated that any vessel—U.S.-flag or foreign—that enters our waters must have aboard a certificate issued by his classification society listing all the casualties that vessel has incurred since it was built.

We do this at the present time with respect to the requirement that any tanker that comes into our waters must have a certificate, issued by responsible U.S. authorities stating that he is financially capable to pay for the cleanup of oil spills. If we can do it that way for financial matters this would be far simpler. The information is available; it just requires someone to say the vessel must have it aboard.

Mr. Burton. One last question that I have, or two.

You supplied us with casualty histories on nine vessels which caused major pollution incidents in U.S. waters. (See app. 3A.) You have them listed, by flag owner registry and by the "head owner." Can you describe the difference between flag owner and head owner?

Mr. McKenzie. Most tankers are owned by a company that is a perfectly legal ethical subsidiary corporation of a large company that may own several tankers. Normally in the newspapers, aboard the ship, and in the various documents that are available in forms of booklets it lists this owner of registry which is oftentimes a corporate structure which has no substance.

The person that we deal with whether you are the ship owner, or the government, or anyone else, you really deal with the head owner.

Mr. Burton. Would you comment on the use of information in the boarding of foreign tankers and on improvement of training and qualification standards as was laid out in the President's proposal?

Mr. McKenzie. I was glad to see the President propose to have a marine safety and information system which I understand is basically a Coast Guard proposal. I would suggest it go a little further. This is the beginning of it. The one possible drawback to it might be that it doesn't take advantage, as it's discussed here in this writeup at least, of public information that is available to everybody in the world if they just want to get it. That is the information that is available from Lloyd's of London, which has the largest industrial intelligence-gathering organization in the world. They have 1,600 agents around the world gathering intelligence for their purposes and they make this available.

If we required the ship to have aboard an official listing of his casualties as known to the people who classify that ship, plus what the Coast Guard is proposing, I think we would have a magnificent way to chase these fellows off the seas.

Mr. Burton. Thank you very much, Mr. McKenzie.

Mr. Stangeland?

Mr. Stangeland. No questions.

Mr. Burton. Mr. Moffett?

Mr. Moffett. Mr. McKenzie, I would like to learn a little more about your operation and how it relates to what the Coast Guard does or could be doing. How do you gather your information?

Mr. McKenzie. I gather it out of a newspaper that is published in London. It's called Lloyd's Listing. It's the oldest daily newspaper in the world. It's public.

Mr. Moffett. How would you compare the caliber and the degree of information that you have to what the Coast Guard currently possesses.

Mr. McKenzie. On any particular incident that happened in U.S. waters—and I have the chance to compare 10 using the Coast Guard's very detailed system and Lloyd's—on anything that happens in U.S. waters the Coast Guard information is far more detailed and helpful. But, nonetheless, the Lloyd's system covers all major casualties occurring anywhere for all ships.

Mr. Moffett. But doesn't the Coast Guard acquire the information that you get out of Lloyd's too?

Mr. McKenzie. They certainly could. Whether they do or not I don't know.

Mr. Moffett. Mr. Chairman, may we ask the Admiral to respond to that.

Mr. Burton. Yes.

Mr. Moffett. Do you have the same information that Mr. McKenzie has?

Admiral Benkert. No; we have not kept a full dossier on foreign-flag vessel casualties which have happened in areas other than in the U.S. waters.

Mr. Moffett. I don't want to be grilling you again, Admiral, but it just seems to me that's an obvious kind of thing that should be done. What kind of a task is it to gather that information? You say you get it out of a newspaper.

Mr. McKenzie. To me it was a big task. To any large organization it's just deciding to do it and set up a little group to do it.

Mr. Moffett. Who uses your service?

Mr. McKenzie. A lot of the oil companies are my clients, newspapers, conservation groups.

Mr. Moffett. The Coast Guard isn't one of your customers though?

Mr. McKenzie. Not yet, but they have often talked to me about using the information. They may make a deal to use my data.

Mr. Moffett. I don't know if they should make a deal with you. but I do know that I think they should have that information.

Could they put you out of business under the Carter proposals?

Mr. McKenzie. Yes. They could put me out of business, for example, if they took all the information and made it available. But let me quickly hasten to add that I don't worry about that. A small little outfit can always stay ahead of the big fellows.

[Laughter.]

Mr. Moffett. I would like to believe that that's true. It would give me a lot of faith that I don't have right now.

One more thing. As far as the business of collecting this information retrieval system—you're not suggesting that this can or should be done exclusively in the private sector, are you?

Mr. McKenzie. No. My proposal is to make it both private and for authorities.

Mr. Moffett. How do these classification societies, such as the American Bureau of Shipping operate to gather information on vessel casualties; is it the same way that you do?

Mr. McKenzie. No; they have a far better method. Classification societies around the world issue seaworthy certificates to the shipowner, and require that any time a vessel is involved in any type of a casualty, that it be reported to the classification society. Then the classification society issues a document that will state whether or not the vessel is still considered to be seaworthy.

Mr. Moffett. Would that kind of information be helpful to the Coast Guard?

Mr. McKenzie. It would be absolutely fantastic if they could get that. They could certainly get it from the American Bureau of Shipping because the Coast Guard is on the executive committee of the American Bureau of Shipping.

Mr. Moffett. That's very helpful. Just one more thing.

The five items listed under "Ship Construction and Equipment Standards" in the White House message—double bottoms, segregated ballast, and so forth, I'm sure you're familiar with those—it says after they list those in the message that, "These requirements would take full effect within 5 years; could some of those be done sooner?

Mr. McKenzie. In my opinion, the segregated ballast requirement can be implemented as quickly as someone decides to do it.

Mr. Moffett. How about the inert gas systems?

Mr. McKenzie. The inert gas system can be implemented that quickly likewise—as soon as the ships go in the shipyards it can be installed. It might take a year or two.

Mr. Moffett. What's the situation with the technology available for the backup radar systems?

Mr. McKenzie. I really wouldn't be competent to answer.

Mr. Moffett. Thank you, I think your testimony was very helpful to us.

Mr. Burton. Mr. Walker?

Mr. Walker. Thank you, Mr. Chairman.

Do you tend to agree with the Coast Guard's evaluation that 85 percent of all the oil spills are the result of human error?

Mr. McKenzie. I have a great deal of difficulty with this percentage. If I'm allowed to expand it I'd say all casualties have a tremendous component of human error in them. But I would like to state like I did in my testimony, sir, that in my opinion the human error probably starts with the shipowner. Then it rolls over onto the ship operator or the men on the ships. To try to separate the issue of a casualty due to a poor ship, poorly manned, or poorly trained crews is very difficult.

Mr. Walker. I notice that one of the points you make here is that there are significant differences in casualty ratios between owners. So in other words, what you are saying is that certain owners do have a significantly higher casualty rate and this probably results from the people that they employ, the caliber of people and the way that they keep their ships and so on.

Mr. McKenzie. A skinflint owner will have a skinflint ship and he will hire substandard people by anyone's definition to operate the ship.

Mr. Walker. This could be shown on any kind of a proper record keeping kind of system where we could pretty much identify these people.

Mr. McKenzie. It becomes immediately apparent—look at Lloyd's records. Literally hundreds of tankers can go 7 and 8 years and never have any single reported casualty. Then there are several hundred that can hardly limp from port to port without either hitting something, bumping into something, or spilling oil. And let me hasten to add that some of those are American-flag vessels, I'm ashamed to say.

Mr. Walker. Thank you, Mr. McKenzie, I find your testimony very helpful. Thank you, Mr. Chairman.

Mr. Burton. Thank you, Mr. McKenzie.

The committee will recess until 2 o'clock, at which time we will hear from Mr. Eldon Greenberg, Center for Law and Social Policy, and Mr. James Cole and Mr. Zusi of the American Petroleum Institute.

Unless bells are ringing at 2 o'clock we will be here or shortly thereafter.

Mr. McKenzie, also would you be able to respond to some written questions by the committee?

Mr. McKenzie. I'm going home but I will respond.

[See app. 3B, p. 529.]

[Whereupon, at 12:30 p.m., the subcommittee recessed, to reconvene at 2 p.m., the same day.]

AFTERNOON SESSION

Mr. Burton. Our first witness this afternoon will be Mr. Eldon Greenberg of the Center for Law and Social Policy.

Did the admiral go? We need to tell him that we really were not trying to point a finger at him or the Coast Guard necessarily. In other words, we know what the problem has been before, and there's never been this kind of direction. We didn't want him to think this was an attack on his professional integrity or ability. We know that they have had to deal with problems which involve OMB. Think how bad it would have been if the President hadn't come up with this plan.

Mr. Greenberg, please.

STATEMENT OF ELDON V. C. GREENBERG, CENTER FOR LAW AND SOCIAL POLICY

Mr. GREENBERG. Thank you, Mr. Chairman.

I am Eldon Greenberg of the Center for Law and Social Policy, a public interest law firm here in Washington, D.C.

Mr. BURTON. We have your statement that was prepared earlier. Why don't you, after stating your background—you were here this morning; weren't you?

Mr. GREENBERG. Yes.

Mr. BURTON. Based on that, bring up some points that you might want to raise.

Mr. GREENBERG. I had intended to, Mr. Chairman.

Mr. BURTON. Without objection, your statement will be made a part of the record.

Mr. GREENBERG. For the past 4½ years I have been actively involved in representing a coalition of national environmental organizations on oil tanker safety issues. That coalition has included at various times seven to nine environmental organizations with a total membership of more than 2.5 million persons throughout the United States.

We have been particularly active on issues relating to implementation of title II of the Ports and Waterways Safety Act.

In my testimony today I had intended to focus upon the failures of the Coast Guard and to seek to explain the reasons for some of those failures—particularly the Coast Guard's reliance on international standards—and to suggest that the time had come for independent initiatives to control vessel source pollution. One solution that I suggest in my prepared statement was that the administration take vigorous action to institute new initiatives to control oil pollution hazards.

Last Friday the administration acted and it called upon the Secretary of Transportation to move ahead of the international community in establishing design, construction, and manning standards for all vessels which enter U.S. navigable waters. In such circumstances, I think criticism of past Coast Guard actions is unnecessary and would be rubbing salt in old wounds. Thus, while I would be happy to lay out this historical analysis, I would agree with your assessment, Mr. Chairman, that it's not necessary.

Mr. BURTON. Let me ask you a question.

Do you think that there was an unwillingness to do this on the part of the Coast Guard? Or was it that they probably are not the big policymakers, so they could also have been victims of OMB or lack of emphasis on it? Conceivably their superiors weren't all that interested to think it was that hot an issue. Or do you think there is a basic reticence on their part to do this?

Mr. GREENBERG. I certainly think it's fair to say that the prior administration as a whole was not enthusiastic about the oil tanker safety, certainly not as enthusiastic as this administration appears to be. There may have been roadblocks at OMB and in the White House to effective regulation. I obviously don't know what went on in the inner councils of the prior administration.

I do think, however, that there was substantial reluctance within the Coast Guard itself to establish stringent standards largely because, as I spell out in the testimony, the Coast Guard truly believed in international regulation of oil tankers. They are skeptical, for reasons with which I disagree, about unilateral or independent initiatives.

Mr. Burton. Is that a policy of the Coast Guard or a policy of the Congress?

Mr. Greenberg. Congress policy is spelled out in the Ports and Waterways Safety Act. What Congress said in the Ports and Waterways Safety Act was that new standards were required, and that it was preferable to have those standards adopted multilaterally. But if multilateral standards could not be achieved, then it was essential that the Coast Guard move ahead on its own. I think Congress laid it out fairly clearly in 1972.

Mr. Burton. Doesn't the President's proposal really stay in that international area? It directs the Coast Guard to do many things but the Coast Guard expressed their intention to pursue it internationally and not unilaterally. He's prepared to act unilaterally but really wants to get it all as an internationally agreed upon situation.

Mr. Greenberg. I must say I read the President's message somewhat differently than the Coast Guard witnesses this morning.

Mr. Burton. That's the impression that I got from reading the fact sheet—that there wasn't a clear-cut direction, or maybe not clear cut enough, to move unilaterally.

Mr. Greenberg. I thought that there was a fairly clear-cut direction to the Coast Guard to move ahead with standard setting, particularly as regards design, construction, and equipment, with the recognition that it would be desirable, of course, if the international community also agreed to those standards. But I do not believe that our adoption of standards was made in any way dependent upon actions which might be taken at some future date by the international community.

If I could proceed to say a few words about the President's message, maybe I can put that in some perspective.

I'd like to briefly mention some hopes and fears that I have for the future with reference to this announced administration program. Of course the environmental groups have not had a chance to assimilate the message fully. In fact, most of my clients have probably not even seen it yet. Thus, as a result, the groups as a whole are not in a position to make a judgment one way or the other. I'd like to give you my personal judgment without intending to speak for the environmental community and for the groups which I represent.

Mr. Burton. How do you interpret it as you read it?

Mr. Greenberg. Personally I am delighted with the overall package. I think that there is much in this program which represents the adoption of the kind of initiatives which the environmental community has urged for the past 4½ years. But I don't believe that we can be overconfident just because the President has announced new oil pollution initiatives. Many of the details remain to be filled in.

In the past, sound initiatives have not been fully implemented. They have been frustrated by the slowness of the administrative process and by the opposition from various departments and agencies within the administration.

A good example is double bottoms. In January 1973, the Coast Guard first proposed that double bottoms be made mandatory for all oil tankers larger than 20,000 deadweight tons which were trading in U.S. navigable waters. We are more than 4 years down the road from that initial proposal—which we applauded at the time—and obviously we don't have a double bottom requirement.

The history of the double bottom regulation is as long and as complicated as the history of any regulation that I can imagine. The sum and substance of it was that ultimately the Coast Guard backed off from the double bottom requirement sometime late in 1973 and 1974.

When I say that I'm concerned about the potential for derailing of the Presidential proposal in the course of implementation, my concern was validated, to some extent, this morning by some of the statements of the Coast Guard witnesses. Indeed, I was flabbergasted to hear Admiral Benkert state that the proposals for double bottoms and segregated ballast retrofit might not go into effect unless there was international agreement at IMCO, or at least until several years had gone by during which time IMCO would have the opportunity to consider those proposals. To me that is not what the President said in his message to Congress.

To me what he said was that the Coast Guard should——

Mr. Burton. Excuse me, I disagree with you. I'm afraid that that's not flying in the face of it. These requirements would take full effect within 5 years.

Mr. Greenberg. I was going to get to the 5-year point.

Mr. Burton. The only possible reason would be to try to run through a 2-year ratifying process or something.

Mr. Greenberg. No; I think there is another reason for the 5-year provision in the Presidential statement. I'll get to that in a moment.

I do believe that the President said, "Let's move as quickly as possible." He didn't make any distinction between the first two design and equipment items and the last three design and equipment items such as the Coast Guard made this morning. And I don't think in this statement he calls for the kind of reliance on IMCO which in the past has been counterproductive.

Now what does that 5-year implementation period mean? To me, all that means is that the President recognized that there is a reality of the tanker market and that for the entire fleet to retrofit with segregated ballast, for the entire fleet to retrofit with gas inerting systems, for the entire fleet to retrofit with backup radar systems, and so forth, cannot be accomplished overnight. As a physical reality it has to be dealt with and as a practical matter, no matter what requirements we put into effect tomorrow, there's going to be a period of time which will go by before these requirements are fully effective. That's the language in the Presidential statement. The President said, "These requirements will be fully effective in 5 years."

I take that to mean that there is going to be a period during which they are partially effective as the fleet slowly switches over to these new and innovative design construction standards. I don't think there's any implication in the Presidential statement that we're going to wait for 5 years to see what IMCO does before these standards become effective. Indeed, if we waited 5 years for IMCO, we'd have to wait another 5 years for the fleet to retrofit. So we would be talking about 10 years instead of 5 years.

Nonetheless, I think there are some problems with the Presidential proposal. Some of those problems lie in this 5-year implementation program. It seems to me that we need a scheme to insure that the retrofit and the new building take place on as rapid a schedule as possible. In other words, we want to provide some incentives for tanker owners and operators to retrofit their vessels tomorrow and not wait until some time in 1981 or 1982 to bring their vessels into the yards and to bring them into compliance with the regulations at that time.

At various hearings this winter we have suggested that a fee or a quota or a preference system for vessels which meet these standards at the earliest possible date might be instituted. That's something that could undoubtedly be done by legislation. It might be able to be done by administrative action, although I'm not certain on that point.

There are other problems with the Presidential proposal—other gaps which exist. One example is what do you do with the *Argo Merchant* situation? How do you deal with ships that may be 25, 27, or 30 miles off our coast, outside the traditional jurisdiction of the United States? We have proposed in other forums that an extended maritime pollution control zone be established. As I'm sure the chairman is aware, there is currently pending before the Senate Commerce Committee legislation introduced by Senator Magnuson which would establish such a zone giving us control out 200 miles from our coast and allowing us to require foreign-flag tankers to take a U.S. pilot—maybe when they're 30, 40, or 50 miles off our coasts—instead of having to wait until they are within the 3-mile limit.

That kind of zone might also give us the power to set up a vessel traffic system for monitoring and controlling vessels as they enter these hazardous waters which are outside traditional jurisdiction but, nonetheless, where there are strong reasons for us to assert control.

So, in sum, I think the battle is far from over. I think that the Presidential statement is an extremely important and gratifying first step. But it's also important to recognize that initiatives can be frustrated during the course of agency implementation. It's important to avoid the pitfalls of the past when we take action in the future.

I believe that with strong support from the White House and from Congress, and with the kind of congressional oversight that this subcommittee is providing today and which I am sure it will provide in the future, we can bring these meaningful initiatives to fruition and we can make real progress in our effort to protect and preserve the marine environment.

Thank you.

Mr. Burton. Thank you for your testimony. I think you raised some excellent points. I don't know what the argument against some of the things you suggested would be, but none of them comes into my mind right now.

I just am concerned that we won't be taking unilateral action and moving aggressively because the argument will be, "We're in the same international forum, let's do it that way." I just don't think that's the proper forum for this issue.

Mr. Greenberg. Mr. Chairman, I could not agree more strongly. The thrust of my prepared statement was that this kind of reliance on international standard setting is counterproductive in terms of protection of U.S. environment. If it turns out that the thrust of this initiative announced by the White House is in the end to rely on IMCO for coming up with solutions to the marine pollution problem, then I think the initiative will be a failure. But I am holpful that that will not be the case.

Mr. Burton. Mr. Greenberg has just pointed out, citing the Senate report on the Ports and Waterways Safety Act, that neither the Marine Pollution Convention of 1973 nor any other international agreements to which we are a party restrict our right to establish standards for vessels in our ports or territorial waters.

I think clearly that that authority is something that the American people are going to demand. My impression of the President is that if he says it and wants it done—I know if I was working for him I'd do it—I'm sure the Coast Guard will follow his directions on this issue.

Mr. Greenberg. I hope so.

Mr. Burton. Thank you very much.

[Mr. Greenberg's prepared statement follows:]

Prepared Statement of Eldon V. C. Greenberg, Center for Law and Social Policy

I am Eldon Greenberg of the Center for Law and Social Policy, a public interest law firm in Washington.[1] For the past four and one-half years, I have been actively involved in representing a coalition of national environmental organizations on oil tanker safety issues.[2] I appreciate the invitation to appear before the Committee today in order to provide it with some background and perspective on the Coast Guard's regulatory efforts under Title II of the Ports and Waterways Safety Act of 1972, Pub. L. No. 92-340 (the "Act"). In particular, I would like to discuss how the Coast Guard's focus on the international nature of the petroleum trade and the desirability of international pollution standards has disabled it from taking effective action to protect the marine environment.

As the Committee is aware, the Act provides the Coast Guard with broad authority to establish standards for the design, construction, equipment, maintenance, manning and operation of all tankers, regardless of registry, which enter U.S. navigable waters. The Senate Report on the Act, S. Rep. No. 92-724, 92d Cong., 2d Sess., 1972 U.S. Code, Cong. & Adm. News 2766 (hereinafter cited as the "Senate Report") sets out in as explicit terms as possible the Congressional objective that the Coast Guard move rapidly to establish meaningful, new standards to achieve an environmentally sound marine transportation system. The Act also establishes a somewhat unique scheme, involving transmittal of U.S. rules to "appropriate international forums for consideration as international standards," for relating standards independently developed in this country to rules and regulations which might be developed internationally. It thus reflects the Congressional conclusion that, all things being equal, multilateral action on marine pollution problems is "preferable" to unilateral initiatives. Senate Report at 2783. It was hoped, at the time the Act was passed, that a comprehensive marine pollution convention would soon be negotiated, obviating the need for independent U.S. standards. Senate Report at 2788.

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[1] The Center's address and telephone number are: 1751 N Street, N.W., Washington, D.C. 20036; (202) 872-0670.

[2] The environmental organizations include the Natural Resources Defense Council, Sierra Club, Wilderness Society, National Wildlife Federation, Environmental Defense Fund, Friends of the Earth, National Audubon Society, National Parks and Conservation Association, and Environmental Policy Center. Their combined membership exceeds 2,500,000 persons throughout the United States.

The problem with a "multilateral preference" is that the international negotiating forum, the Intergovernmental Maritime Consultative Organization ("IMCO"), is not terribly well disposed toward environmental protection. Congress, in 1972, recognized that, on the whole, "the IMCO record has been rather dismal," Senate Report at 2783, but hoped for better things. Nonetheless, while there has been some improvement at IMCO and while there was a marine pollution convention negotiated in 1973, IMCO basically remains an organization with a maritime bias which is dominated by the world's major maritime powers -- powers which do not share and are often not sympathetic to our environmental concerns.[3/] It is thus almost inevitable that international agreements negotiated at IMCO reflect lowest common denominator compromises.

The International Convention for the Prevention of Pollution From Ships, 1973 (the "1973 Marine Pollution Convention") -- the comprehensive marine pollution convention Congress hoped for -- is a case in point. While it does serve the purpose of providing desirable minimum international standards, particularly as regards operational discharges, there is much that it does not do. It contains virtually nothing to reduce accidental oil pollution. It does not mandate a single feature to improve the notorious lack of maneuverability of oil tankers, while its major provision to reduce operational oil pollution -- the requirement of separate tanks for ballast water and oil cargo ("segregated ballast") -- only applies to vessels ordered after January 1976. Because of the current tanker surplus, this effectively exempts almost all of the world tanker fleet for the next two decades. Double bottoms, urged as a requirement by the

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3/ Attached as Exhibit A to this testimony is my paper, IMCO: An Environmentalist's Perspective, 8 Case-Western Reserve Journal of International Law 131 (1976), which describes in detail the problems of IMCO.

United States, and supported by a few other environmentally conscious nations, were rejected at the negotiation. Realistically analyzed, the 1973 Marine Pollution Convention, with the exception of its requirement for segregated ballast, does not contain any major design and construction innovations for oil tankers.

The Coast Guard plainly has the power under the Act to go beyond the standards of the 1973 Marine Pollution Convention or other international agreements in establishing standards for both U.S. tankers and for foreign flag tankers which enter U.S. navigable waters. The Senate Report makes it clear that adequate standards for protection of the marine environment "be adopted, multilaterally if possible, but adopted in any event," Senate Report at 2788 (emphasis added), and that Congress was "not willing to sacrifice the objective of protection of the marine environment on the altar of ... [the] principle [of international regulation]." Senate Report at 2783. Further, neither the 1973 Marine Pollution Convention nor any other international agreements to which we are a party restrict our right to establish standards for vessels entering our ports or territorial waters.

Despite the Coast Guard's powers under national and international law, and despite the inadequacies and gaps in the 1973 Marine Pollution Convention, the Coast Guard has not, to date, adopted a single major design and construction standard, either for U.S. or for foreign flag tankers, not already agreed to internationally under the auspices of IMCO.[4] The Act, in other words, is not being utilized as an engine for reform, as its sponsors intended it to be, but merely as a vehicle for implementing previously agreed upon international solutions. This approach to implementing the Act has been justified by the Coast Guard for political, not technical reasons.

The extent of the Coast Guard's devotion to solutions arrived at through IMCO is reflected in its Final Environmental Impact Statement on Regulations for Tank Vessels Engaged in the Carriage of Oil in Domestic Trade: Protection of the Marine Environment (August 1975)(the "EIS"). The EIS basically reads like a brief for the 1973 Marine Pollution Convention, rather than an objective analysis of how best to protect marine and coastal environment of the United States. The first ten pages of the EIS almost entirely focus on why the United States must support the 1973 Marine Pollution Convention. And, every single alternative is rejected because, inter alia, the 1973 Marine Pollution Convention does not provide for it. See EIS at 60-62.[5]

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[4] On January 31, 1977, the Coast Guard did promulgate certain navigational equipment standards not yet agreed to internationally, but these, by their terms, simply represent an effort to codify existing industry practice. The Coast Guard has also inched beyond IMCO in requiring the allocation of segregated ballast as "defensive space" along a tanker's hull -- where most tankers would allocate it in any event.

[5] The EIS, it should be pointed out, recognizes that the regulations adopted provide "considerably less" pollution protection than would otherwise be desirable and feasible. EIS at 3.

In sum, the primary basis for determining whether or not particular standards should be included in regulations has been whether such standards were provided for in an international agreement rather than whether such standards would provide for the best possible protection of our navigable waters. The ostensible justification for this approach is that a "cooperative international effort" to oil pollution control is essential and that U.S. leadership in this effort is linked to a decision not to go beyond the requirements of the 1973 Marine Pollution Convention. But, except to set out wholly speculative disadvantages, e.g., "loss of foreign trade," "adverse effects on foreign relations," EIS at 7, the Coast Guard has never coherently articulated why a cooperative effort would falter if the United States adopted independent standards for its own navigable waters or how our leadership would be adversely affected by such action. It is my belief and the belief of the environmental organizations which I represent that the Coast Guard's approach is unsound and can only result in inadequate environmental protection. Indeed, the Coast Guard is doing precisely what Congress stated it must not: it is sacrificing environmental protection on the altar of the principle of international regulation. Senate Report at 2783, 2788.

The basic reason for the Coast Guard's approach to administration of the Act, in addition to the Act's own "multilateral preference," is perhaps most fundamentally related to the Coast Guard's perception of its role in the international negotiating process. As explained by Admiral

Siler, Commandant of the Coast Guard, to Senator Magnuson in a letter of January 31, 1977,[6] the Coast Guard sees itself as providing "leadership and technical expertise" in international forums. Admiral Siler goes on to state:

> "If the Coast Guard became known as a proponent of unilateral action, outside the bounds of existing international agreements developed through tough and prolonged negotiations, our credibility would rapidly deteriorate and the ability of the U.S. to raise international standards through negotiations would end. In short, a decision for far-reaching unilateral action contrary to existing agreements would inevitably destroy our power to improve maritime standards and practices on a global scale through international processes."

While I would not attribute such far-reaching and catastrophic results to firm and independent U.S. tanker regulation, the psychology of Admiral Siler's statement is significant. What he indicates is that, even though international treaties, such as the 1973 Marine Pollution Convention, do not prohibit individual governments from establishing higher standards for activities within their jurisdictions and for their own nationals, as a practical matter, these treaties may hinder rather than encourage the development of environmentally sound national standards. This happens because the agency which negotiates the international standards is usually the agency also charged with implementing domestic law. Such agencies are unlikely to draft domestic standards which have been rejected (or even not considered) internationally. For example, prior to the negotiation of the 1973 Marine Pollution Convention, the U.S. Coast Guard proposed innovative tanker standards, such as double bottoms. When the Coast Guard standards were not adopted in the Convention, the Coast Guard reversed itself and decided to establish no standards higher than those in the Convention. The concept of a regime composed of "minimum" international standards thus tends to become in practice a regime of "maximum" international standards by inducing national inaction.

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[6] The letter is reprinted in Hearings before the Senate Committee on Commerce on Recent Tanker Accidents, 95th Cong., 1st Sess. 193-195 (Serial No. 95-4)(1977).

The history of the Act to date suggests that in order effectively to protect our marine and coastal environment there must be a decided shift away from reliance on international standard setting. Such a shift might not only provide better protection for the U.S. environment, it might provide better protection for the global environment. Because so much of the world petroleum trade is destined for the United States, and because U.S.-controlled companies make up such a large part of the world trade, imposition of stringent standards on all vessels which seek to enter U.S. waters and on all vessels owned or controlled by U.S. nationals could effectively make the U.S. standard the worldwide norm.

In sum, I believe -- and I speak for the environmental groups as well on this issue -- that strong, independent initiatives are absolutely required if we are to make significant progress in preserving and protecting the marine and coastal environment. This means that the Administration must move ahead forcefully, without waiting for international action. Further, Congress must give serious consideration to strengthening the mandate of the Act so as explicitly to require the Coast Guard to promulgate standards in specified subject areas, based upon a best available technology criterion, to take effect immediately, irrespective of any international agreement, convention or treaty, unless existing international standards are of equal or greater stringency.

Mr. Chairman, I hope this presentation has been helpful to the Committee. I would be pleased to answer any questions you or other members may have.

IMCO: An Environmentalist's Perspective

Eldon V. C. Greenberg[*]

I. Introduction

THE AGE of the "oilberg," true to the warnings of Noel Mostert, may well be upon us.

In the last year, major oil tanker accidents have occurred with a disconcerting regularity. In August 1974, the 206,000 deadweight ton *Metula* ran aground in the Straits of Magellan, ultimately spilling more than 50,000 tons of oil into the sea. Five months later, another "supertanker," the *Showa Maru*, carrying 237,000 tons of crude oil from the Arabian Gulf to Japan, struck a reef in the Straits of Malacca, spilling approximately 4,500 tons of oil. Later that month, the 88,000 deadweight ton tanker *Jakob Maersk* ran aground off the coast of Portugal, and all of its cargo either spilled into the water or burned in the subsequent fire, resulting in the largest cargo loss since the *Torrey Canyon*. All told, in the years 1969-1973, more than 3,000 tanker accidents occurred worldwide, resulting in more than 450 polluting incidents and in a total loss of more than 7 million barrels of oil.[1]

The frequency of tanker accidents has been coupled with the growth of the total amount of oil discharged into the oceans from normal tanker operations. The National Oceanic and Atmospheric Administration, after surveying the Atlantic Ocean off the coast of the United States, has reported that "oil globules . . . in massive proportions infect nearly 700,000 square miles of blue water from Cape Cod to the Caribbean Sea."[2] Scientists at the Bermuda Biological Station for Research have estimated that, at any one time, at least 700,000 tons of pelagic tar are floating in the oceans, and that estimate might easily be low by a factor of three.[3]

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[*] Attorney, Center for Law and Social Policy, Washington, D.C. Portions of this article will appear in a forthcoming book review by the same author in the *Louisiana Journal of Maritime Law and Commerce*.

[1] Card, Ponce & Snider, *Tank Ship Accidents and Resulting Oil Outflows, 1969-1973*, in ENVIRONMENTAL PROTECTION AGENCY, AMERICAN PETROLEUM INSTITUTE, UNITED STATES COAST GUARD, 1975 CONFERENCE ON THE PREVENTION AND CONTROL OF OIL POLLUTION 205 (1975).

[2] Fish Larvae Found in Environment Contaminated with Oil and Plastic (Mar Map Red Flag Report No. 1, Jan. 18, 1973).

[3] J. BUTLER, B. MORRIS & J. SASS, PELAGIC TAR FROM BERMUDA AND THE SARGASSO SEA 97-99 (1973).

Summing up the current state of knowledge, the National Academy of Sciences has stated:

> Tar masses are appearing in increased quantity in formerly unpolluted areas such as the East Coast of Africa, the beaches of Southern France, and many islands in both the Indian and Atlantic Oceans. . . . [M]ost of these materials originate from tanker washings and bilge discharges, rather than diffused sources of petroleum input or seeps.[4]

More than 1½ billion tons of oil a year are currently transported by tanker, and of that total, probably more than 2 million tons are ultimately lost in the oceans.[5] Just how much this traffic, with its attendant pollution, will grow in the next 10 or 15 years, given the vagaries of international politics and the will of the OPEC nations, is unclear. But it will almost certainly grow. And it is for international solutions to the troubling environmental problems posed by this growth that one looks to the Intergovernmental Maritime Consultative Organization (IMCO). It is the purpose of this paper to explore the structure, history and some current activities of IMCO in an effort to evaluate whether IMCO is capable of providing such solutions.

II. IMCO: General Background

IMCO is the specialized agency of the United Nations charged with responsibility in the area of maritime affairs. The Convention creating IMCO was drawn up at a United Nations Maritime Conference held in Geneva from February 19 to March 6, 1948, and came into force on March 17, 1958.[6] Article 1 of the IMCO Convention provides that the purposes of the organization are as follows:

> (a) To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade, and to encourage the general adoption of the highest practicable standards in matters concerning maritime safety and efficiency of navigation;
> (b) To encourage the removal of discriminatory action and

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[4] National Academy of Sciences, Petroleum in the Marine Environment 105 (1975).

[5] *Id.* at 6-10.

[6] Convention on the Intergovernmental Maritime Consultative Organization, *done* March 6, 1948, [1958] 1 U.S.T. 621, T.I.A.S. No. 4044, 289 U.N.T.S. 48, *as amended*, Sept. 15, 1964, [1967] 2 U.S.T. 1299, T.I.A.S. No. 6285, 607 U.N.T.S. 276, Sept. 28, 1965, [1968] 4 U.S.T. 4855, T.I.A.S. No. 6490, 649 U.N.T.S. 334 (hereinafter cited as IMCO Convention).

> unnecessary restrictions by Governments affecting shipping engaged in international trade so as to promote the availability of shipping services to the commerce of the world without discrimination; assistance and encouragement given by a Government for the development of its national shipping and for purposes of security does not in itself constitute discrimination, provided that such assistance and encouragement is not based on measures designed to restrict the freedom of shipping of all flags to take part in international trade;
> (c) To provide for the consideration by the Organization of matters concerning unfair restrictive practices by shipping concerns in accordance with Part II;
> (d) To provide for the consideration by the Organization of any matters concerning shipping that may be referred to it by any organ or specialized agency of the United Nations;
> (e) To provide for the exchange of information among Governments on matters under consideration by the Organization.

Article 2 of the IMCO Convention specifically provides, "The function of the Organization shall be consultative and advisory." IMCO, in other words, is "neither a legislative body as such nor a regulatory agency"[7] and its functions are necessarily limited. While it can make *recommendations* to governments, it has no power, absent delegation by specific treaty provision, to implement such recommendations on its own.

Despite the fact that there is no mention in the IMCO Convention of "pollution," IMCO has been the dominant international agency in the area of vessel source pollution. It has been given coordinating responsibility under a number of significant conventions relating to control of pollution at sea. These include:

> (a) The International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (the "1954 Oil Pollution Convention");[8] (b) The International Convention Relating to Intervention on the High Seas in Case of Oil Pollution Casualties, 1969 (the "Intervention Convention");[9] (c) The International Convention on Civil Liability for Oil Pollution Damage, 1969 (the "Liability Convention");[10] (d) The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (the "Fund Conven-

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[7] O'Connell, *Reflections on Brussels: IMCO and the 1969 Pollution Conventions*, 3 CORNELL INT'L L. J. 161, 162, (1970).

[8] *Opened for signature*, May 12, 1954, [1961] 1 U.S.T. 2989, T.I.A.S. No. 4900, 327 U.N.T.S. 3 (*entered into force* for the United States Dec. 8, 1961), *as amended*, April 11, 1962, [1966] 2 U.S.T. 1523, T.I.A.S. No. 6109, 600 U.N.T.S. 332.

[9] *Done* Nov. 29, 1969; 9 INT'L LEGAL MATERIALS 25 (1970).

[10] *Done* Nov. 29, 1969; 9 INT'L LEGAL MATERIALS 45 (1970).

> tion");[11] and (e) The International Convention for the Prevention of Pollution from Ships, 1973 (the "1973 Ship Pollution Convention").[12]

Further, IMCO has over the years developed and submitted recommendations and other guidelines to governments relating to the prevention of marine pollution from ships.[13]

IMCO has been subject to sharp criticism from the environmental community. International standards promulgated under its auspices have been challenged as inadequate, and IMCO itself has been challenged as an "agency that is dominated by the shipping industry and that has always adopted the lowest common denominator,"[14] as "an organization [which was] established essentially to meet the needs of the major maritime interests of the world and remains considerably influenced by them,"[15] and as "[an organization with] undue susceptibility to the influence of predominately maritime interests."[16]

To some extent these criticisms are misdirected. If one examines the achievements of IMCO, especially over the last half dozen years, it is remarkable to note the number of agreements which have been successfully negotiated under its auspices. Yet until the spring of 1975 not a single agreement negotiated since 1966 had yet come into force.[17] Many of the marine pollution problems which we suffer from today are, therefore, more appropriately ascribed to the nations of the world which have delayed bringing these agreements into force, rather than to IMCO itself as a forum for achieving agreement.

Much of the criticism of IMCO, however, is well-founded. Its very structure has been unsuited for dealing in an appropriately vigorous fashion with marine pollution issues, and the history of its activities has been far from satisfactory. Further, despite recent structural changes, its responsiveness still appears limited.

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[11] *Done* Dec. 18, 1971; 11 INT'L LEGAL MATERIALS 284 (1972).

[12] *Done* Nov. 2, 1973; I.M.C.O. Doc. MP/CONF/WP.35 (Nov. 2, 1973); 12 INT'L LEGAL MATERIALS 1319 (1973).

[13] IMCO, THE ACTIVITIES OF THE INTERGOVERNMENTAL MARTIME CONSULTATIVE ORGANIZATION IN RELATION TO SHIPPING AND RELATED MARITIME MATTERS (1974) (hereinafter cited as IMCO ACTIVITIES).

[14] Frank, *The Law at Sea*, N.Y. Times, May 18, 1975, (Magazine), at 14, 63.

[15] R. HALLMAN, TOWARDS AN ENVIRONMENTALLY SOUND LAW OF THE SEA 49 (1974).

[16] Sandbrook & Yurchyshyn, *Marine Pollution from Vessels*, in CRITICAL ENVIRONMENTAL ISSUES ON THE LAW OF THE SEA 19, 26 (Stein ed. 1975).

[17] IMCO ACTIVITIES at annex 2.

III. THE STRUCTURE OF IMCO: A MARITIME BIAS

Structure has been IMCO's basic problem from its inception. As noted above, the IMCO Convention does not establish environmental protection as one of the organization's purposes. Without a strong mandate in this area, it is perhaps questionable whether IMCO can ever become the driving force behind efforts to protect the marine environment. While establishment of a separate Marine Environment Protection Committee (MEPC) within IMCO in November, 1973, with a mandate to "execute and coordinate all activities of the Organization relating to the prevention and control of pollution of the marine environment from ships,"[18] was plainly a step in the right direction, more institutionalization of pollution prevention goals is clearly needed.[19]

The difficulties engendered by the absence of an explicit environmental purpose in IMCO's mandate have been compounded by the membership and voting scheme established under the IMCO Convention, which has permitted the domination of the organization by maritime and shipping interests. IMCO has three principal organs: the Assembly, the Council, and the Maritime Safety Committee (the "MSC").[20] The Assembly is the "supreme governing body" of IMCO and normally meets only once every two years; the Council supervises the execution of the work program and performs the functions of the governing body between sessions of the Assembly; and the MSC is responsible for the technical work of IMCO.[21] All three organs make decisions based on majority voting. However, only the Assembly is composed of all members of IMCO.[22] The Council and the MSC, IMCO's major operating organs, have much more limited membership. The Council consists of 16 members, composed as follows: six from nations "with the largest interest in providing international shipping services"; six from nations "with the largest interest in international seaborne trade"; and six from nations "which have special interest in maritime transport or navigation . . . [which] will ensure the representation of all major geographic areas of the world."[23] The MSC consists of 16 members, composed as follows: eight from nations "elected from among the ten largest ship-owning states" and eight from nations "having an important interest in maritime safety [such as an interest] . . . in the supply of large numbers of crews. . . ."[24] Clearly then, the major maritime interests have been in a position to exert very substantial control over IMCO's actions, and it is easy to see how economic self-interest may outweigh the interest in protection of the environment in IMCO's decision-making.[25]

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[18] IMCO Assembly Resolution A.297 (VIII) (Nov. 23, 1973). *See generally* section IV entitled THE HISTORY OF IMCO: TOO LITTLE, TOO LATE, *infra.*

[19] This need has, indeed, been recognized by the members of IMCO themselves, and a proposal was adopted at the ninth regular session of the Assembly of the organization held November 3-14, 1975, to amend the IMCO Convention to include "prevention of pollution from ships" within its statement of purposes.

[20] IMCO Convention, Article 12.

[21] IMCO ACTIVITIES at 7-8.

[22] IMCO, it should be noted, is open to membership by all member states of the United Nations and by other states in accordance with the provisions of Articles 5-11 of the IMCO Convention. At the end of 1975, IMCO had 91 full members.

Recently, there has been a movement toward change within the structure of IMCO. In recognition of the fact that there was an imbalance of interests on marine pollution issues crucial to all states, proposals have been made, and have now been accepted by the Assembly, to expand the membership of both the Council and the MSC.[26] At the eighth session of the Assembly, held in November 1973, a resolution was adopted pursuant to which an Ad Hoc Working Group, open to all members of IMCO was convened with a mandate "to study any proposed amendments to the IMCO Convention concerning the size and composition of the Council and the Maritime Safety Committee and any consequential related amendments."[27] The Ad Hoc Working Group met in February 1974, and formulated proposals for amendments to the Articles of the IMCO Convention concerning the size and composition of the Council and MSC. Thirty-seven countries, including a variety of developing countries, participated in this effort.

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[23] IMCO Convention, art. 17. Originally the Council consisted of 16 members with six members from each of the first two categories. Article 17 was amended in 1964, *supra* note 6, to expand Council membership to 18 and to add the third membership category.

[24] IMCO Convention, art. 28. The MSC consisted of 14 members prior to a 1965 amendment, *supra* note 6.

[25] The influence of the maritime powers has additionally been reflected in international agreements negotiated under the auspices of IMCO. For example, the 1973 Ship Pollution Convention will not come into force by its own terms, until ratified by "not less than 15 states, the combined merchant fleets of which constitute not less than 50 percent of the gross tonnage of the world's merchant shipping. . . ." International Convention for the Prevention of Pollution from Ships, 1973, art. 15, para. 1. Similarly, any amendment to that Convention is not deemed to have been accepted unless it is ratified by "two-thirds of the Parties, the combined merchant fleets of which constitute not less than 50 percent of the gross tonnage of the world's merchant fleet." *Id.* art. 16, para. 2(f)(i).

[26] IMCO Assembly Resolution A.314 (VIII) (November 23, 1973).

[27] For a description of its work, *see generally* the Report of the Ad Hoc Working Group on Assembly Resolution A.314 (VIII), WGAI/3 (Feb. 12, 1974).

The proposals of the Working Group were adopted by the Assembly at its fifth extraordinary session on October 17, 1974.[28] These proposals, which will come into force upon ratification by two-thirds of IMCO's members, expand the size of the Council from 18 to 24 members and change its composition as follows: six members will come from "states with the largest interest in providing international shipping services"; six members will come from "states with the largest interest in international seaborne trade"; and 12 members will come from other states which "have special interests in maritime transport or navigation, and whose election to the Council would ensure the representation of all major geographic areas of the world." Further, they would eliminate the restricted composition of the MSC: as amended, the IMCO Convention would merely read, "the Maritime Safety Committee shall consist of all the members." These amendments, of course, still leave the maritime states in substantial control of the Council and in a position to block progressive reforms. Thus, the practical effect of such changes, if adopted, may be imperceptible, and it is far too early to tell whether the next few years will see a shift in IMCO towards a more balanced approach to the marine pollution problem.

IV. THE HISTORY OF IMCO: TOO LITTLE, TOO LATE

If the composition of the Council and the MSC has raised questions in the past as to the orientation of IMCO, its history, especially over the first years of its operations, bears out a mixed appraisal of its accomplishments. The IMCO Convention came into force on March 17, 1958, and the first session of the Assembly of IMCO was held in London from January 6 to January 19, 1959. For the next 10 years, however, IMCO accomplished little in the way of protection of the marine environment.[29] From 1959 through 1969, only one formal IMCO conference was devoted exclusively to the issue of pollution. This was the conference convened at London in April 1962, to adopt amendments to the 1954 Oil Pollution Convention. The amendments agreed upon, however, represented only marginal improvement in the regulation of oil tanker traffic. Their main achievements were merely to extend the application of the 1954 Oil Pollution Convention to ships of a lesser gross tonnage and to extend the zones in which the discharge of persistent oil was prohibited.[30]

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[28] IMCO Assembly Resolution A.315 (ES.V) (Oct. 17, 1974).

[29] For a history of the early years of IMCO, *see generally* Johnson, *IMCO: The First Four Years (1959-1962)*, 12 INT'L & COMP. L. Q. 31 (1963).

The years 1969 through 1973 saw a flurry of activity at IMCO. Spurred by the *Torrey Canyon* incident in March 1967, and the entry onto the world scene of "supertankers" after the closure of the Suez Canal in June of 1967, the international community negotiated, under the auspices of IMCO, a spate of agreements, including: amendments in 1969 and 1971 to the 1954 Oil Pollution Convention; the 1973 Ship Pollution Convention; the Intervention Convention; the Liability Convention; and the Fund Convention. The IMCO Assembly, moreover, went on record at the beginning of the decade as seeking to develop a program to reduce radically vessel source pollution. In 1971, the seventh regular session of the Assembly decided upon the institutional goal, to be effectuated by the International Conference on Marine Pollution of 1973, of:

> the achievement, by 1975 if possible but certainly by the end of the decade, of the complete elimination of the willful and intentional pollution of the seas by oil and noxious substances other than oil, and a minimization of accidental spills.[31]

Because the agreements negotiated over the past half dozen years are either not yet in force or have only recently come into force, it is clearly too early to assess fully the impact of IMCO's initiatives in the marine pollution area. Yet some tentative conclusions may be drawn, and these conclusions are not wholly positive.

The 1969 and 1971 amendments to the 1954 Oil Pollution Convention may be taken as examples of the timidity of IMCO's efforts. These amendments merely codify existing industry practice as far as operational discharges and tank sizes, respectively, are concerned. The 1969 amendments essentially mandate continued use of "load on top" procedure to reduce the effluent content of ballast discharges — a tank cleaning and loading technique followed on some 75 percent of existing tonnage at the time the amendments were adopted.[32] Further, they permit the discharge of up to one fifteen-thousandth of a tanker's cargo per voyage. Consequently, a 300,000 deadweight ton (dwt) tanker may discharge almost 20 tons of oil per voyage. Thus, they do little to bring about a significant decrease in the amounts of oil discharged into the ocean as a result of normal tanker operations. Similarly, the 1971 amendments represent virtually no improvement over current practice. The agreed upon tank size limitations are at the top of the scale of what is now incorporated on "supertankers." These limitations allow 141,519 barrels to be contained in any single wing tank and 314,487 barrels to be contained in any center tank. Obviously, the complete loss of cargo from a single tank meeting these size limitations would be environmentally disastrous.

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[30] *See* Amendments to the 1954 Oil Pollution Convention, *adopted* April 11, 1962, [1966] 2 U.S.T. 1523, T.I.A.S. No. 6109, 600 U.N.T.S. 332. For a discussion of such amendments *see* Johnson, *supra* note 30, at 51-55.

[31] IMCO Assembly Resolution A.237 (VII) (Oct. 12, 1971).

[32] *See* Porricelli, Keith and Storch, *Tankers and the Ecology*, (paper presented

Even at the time that the 1969 and 1971 amendments were agreed upon, it was obvious that something more was required, and thus the IMCO Assembly, on October 21, 1969, decided:

> to convene, in 1973, an international conference on marine pollution for the purpose of preparing a suitable international agreement for placing restraints on the contamination of the sea, land and air by ships, vessels, and other equipment operating in the marine environment.[33]

Almost 4 years of preparatory work were devoted to this conference, at which the 1973 Ship Pollution Convention was negotiated. There were high hopes for its outcome. At the opening of the conference, on October 8, 1973, Russell E. Train, chairman of the United States Delegation, underscored the importance of the conference's tasks and the necessity of bringing marine pollution under control:

> Among the challenges to mankind, few are more critical than the need to protect the marine environment. All nations have a major stake in the continued healthy functioning of the natural systems of the oceans. Preserving the marine organisms upon which much of our global oxygen balance depends, the protection of both deepwater and coastal fisheries, safeguarding the estuarine areas upon which the generation of much marine life depends, the protection of beaches and shoreline areas for recreation and growing world tourism — these are vital concerns of all countries.
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> The international community has determined, in major re-

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at the annual meeting of the Society of Naval Architects and Marine Engineers Nov., 1971).

[33] IMCO Assembly Resolution A.176 (VI) (Oct. 21, 1969).

> cent forums and pronouncements, that pollution of the seas from vessel discharges must be prevented, and in particular, that intentional oil pollution must be terminated during this decade. We meet today to carry out those resolves.
>
> It is vitally important that we do so. Our coastal populations and resources have already suffered the consequences of vessel pollution incidents, and the dramatic increase of seaborne commerce in hazardous substances . . . could ultimately upset the healthy functioning of the natural systems of the oceans. Although that ultimate environmental catastrophe is not yet upon us, we must nevertheless proceed with a genuine sense of urgency.[34]

It is questionable whether the 1973 Ship Pollution Convention comes near to fulfilling Chairman Train's hopes. Although the Convention does extend international regulation to white or "non-persistent" as well as black oils, require oil discharge monitoring and control equipment on new and existing tankers, and provide that new, large oil tankers be constructed with segregated ballast tanks in order to prevent operational pollution, its achievements are limited as far as oil pollution is concerned. The discharge standards agreed upon are basically those of the 1969 amendments and the tank size limitations agreed upon are basically those of the 1971 amendments. Segregated ballast, although found by the United States to be feasible on tankers as small as 20,000 dwt,[35] is only mandated for vessels larger than 70,000 dwt, and there is no provision that segregated ballast be achieved through incorporation of a double bottom — a feature which would go a long way toward eliminating outflows due to groundings. Likewise, there are no provisions relating to maneuverability or stopping ability of tankers, although improvements in this area are desperately needed to reduce the risk of tanker accidents. Finally, the failure to require retrofit of segregated ballast capacity, as well as other design features, virtually assures that the design and construction requirements of the Convention will be dead letters. A tanker construction boom in the years 1970 through 1974 has resulted in a glut of tankers on the market, and few new tankers, particularly supertankers, are going be to contracted for over the next 10 years.[36] As one commentator has stated:

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[34] Statement of the Hon. Russell E. Train, chairman, United States Delegation to the 1973 Marine Pollution Conference, London, 8 October 1973.

[35] *See* U.S. Coast Guard, Reports on Parts 1 and 2 of Study I, Segregated Ballast Tankers (June 1972 and Feb. 1973); U.S. Coast Guard, Draft Environmental Impact Statement on the International Convention for the Prevention of Pollution from Ships 50 (N.T.I.S. Order No. EIS 73-1391-D, filed Sep. 4, 1973).

> Though the 1973 Convention may bring about a considerable reduction in the discharge of oil and other harmful substances from ships, economic and technological factors have prevented the imposition of regulations that would totally eliminate vessel generated pollution. Thus the 1973 Convention fails to meet the 1971 IMCO Assembly's stated objectives of achieving by 1975 if possible, and certainly by the end of the decade, the complete elimination of the willful and intentional pollution of the sea by oil and noxious substances other than oil, and the minimization of accidental spills.[37]

V. Hopes for the Future: Two Recent Case Histories

Despite the shortcomings of the 1973 Ship Pollution Convention, there can be no question but that IMCO has become more responsive to the needs of the environment over the past half dozen years. But is it responsive enough? How much have things really changed? What can one expect from IMCO in the future? Although any predictions of this nature are necessarily speculative, two recent case histories, one involving substantive regulation, and one involving procedural reform, indicate that one's hopes for the future must be tempered by a recognition of the frailties of the organization.

A. *Gas Inerting Systems: The Difficulty of Going Beyond the Lowest Common Denominator*

The difficulties in achieving meaningful substantive agreement even on relatively simple issues is well exemplified by a recent IMCO Assembly Resolution regarding gas inerting systems.[38]

Explosions aboard partially loaded tank vessels present a serious threat to the marine environment. United States Coast Guard statistics indicate that during the period 1969-1972, tanker explosions resulted in a total outflow of over 90,000 tons of oil — approximately 11 percent of the total outflow from tankers due to casualties of all types.[39] If the amount of oxygen in a cargo tank is reduced below a threshhold concentration, then combustion is impossible. This reduction can be accomplished by filling cargo tanks with an inert gas. A gas inerting system, which involves installation of equipment to cool, wash and deliver flue gases from the boiler to cargo tanks,[40] "virtually eliminates the possibility of an explosive mixture being formed by cargo vapors" and thus virtually eliminates this source of pollution.[41]

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[36] As set forth in a speech delivered by W.H. Mueller of Exxon Corporation at the Sea Trade Conference in London on March 18, 1975, existing tonnage of medium size tankers and supertankers already exceeds both current and forecasted requirements of the next ten years. Mr. Mueller's figures show a projected tonnage surplus for 1975 of approximately 55 million dwts increasing to about 130 million dwt by 1977 on the basis of current orders. Even if not a single new order is placed — and there seems to be little incentive to place such an order at this time — substantial excess capacity will exist through 1985. Thus, it is unlikely that design and construction requirements applying to new tankers only will have much impact.

[37] Note, *No Dumping in this Ocean: Nearing the End of Ship Generated Pollution*, 7 N.Y.U.J. of Int'l Law and Politics 545, 547 (1974).

[38] IMCO Assembly Resolution A.271 (VIII) (Nov. 20, 1973).

Gas inerting systems were first introduced by a United States oil company in 1925, and systems similar to those now in use were developed by Sun Oil Company of Philadelphia in 1932.[42] At least one major oil company made a decision as early as 1963 to fit all new crude oil vessels with inerting gas systems. In 1968, that company began ordering product carriers fitted with such systems.[43] A series of disastrous explosions which occurred during the period 1969-1971 in non-inerted vessels, including the 208,000 dwt *Mactra*, the 206,000 dwt *Marpessa* and the 219,000 dwt *King Haakon VIII*, underscored the necessity of mandating the incorporation of gas inerting systems both for safety and pollution control. Indeed, at the beginning of 1973, it was recommended to the United Kingdom's Department of Trade and Industry that all supertankers, both those being constructed and those already in service, be fitted with inert gas systems,[44] furthermore, in mid-1973, the Federal Maritime Administration in the United States moved independently to require gas inerting systems on all subsidized U.S. flag oil tankers larger than 100,000 dwt.[45]

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[39] DEPT. OF TRANSPORTATION, U.S. COAST GUARD, DRAFT ENVIRONMENTAL IMPACT STATEMENT: PROPOSED REGULATIONS TO IMPLEMENT THE PORTS AND WATERWAYS SAFETY ACT OF 1972, Table B2, at 32 (June 1974).

[40] For a discussion of gas inerting systems, *see generally* Day, Platt, et al., *The Development and Operation of an Inert Gas System for Oil Tankers*, (paper presented to the Royal Institution of Naval Architects, 1971) [hereinafter cited as "Day"]; Porricelli, Keith and Storch, note 32 *supra*.

[41] FEDERAL MARITIME ADMINISTRATION, FINAL ENVIRONMENTAL IMPACT STATEMENT ON TANKER CONSTRUCTION PROGRAM VI-69 (N.T.I.S. Rep. No. EIS 730725-F, filed May 30, 1973).

[42] Day, *supra* note 40, at 3.

[43] *Id.* at 4.

[44] Journal of Commerce, Feb. 2, 1973, at 8.

[45] Federal Maritime Administration, Final Opinion and Order of Maritime

IMCO did not take the lead in promoting a gas inerting system requirement and, indeed, did not take action until 1973, in part in response to pressure from its member states which were already in the process of taking unilateral actions. At the eighth session of the Assembly in November, 1973, however, a resolution was adopted calling upon member states to put into effect certain draft recommendations made by the Subcommittee on Fire Protection of the Maritime Safety Council concerning fire safety measures for tankers and combination carriers.[46] In particular, the IMCO Assembly Resolution calls upon member states to require incorporation of gas inerting systems on crude oil tankers of 100,000 dwt or more and crude oil combination carriers of 50,000 dwt or more that have keels already laid or that are at a comparable stage of construction on or after July 1, 1974.

Three basic points can be made about IMCO's action, each of which underscores the difficulty in relying upon IMCO for providing solutions to marine pollution problems.

First, the IMCO action came not as a progressive reform but as a somewhat tardy recognition of a need long perceived by others. When the IMCO Assembly adopted Resolution A.271, gas inerting systems, pioneered over 40 years earlier, were already widely accepted, and indeed, after the accidents of the late 60's and early 70's, most major oil companies had moved independently to put such systems at least on their larger vessels. IMCO action, therefore, represented once again merely the issuance of an international stamp of approval, designed to some extent to eliminate any competitive disadvantage suffered by owners of inerted vessels, to an already widespread industry practice.

Second, the IMCO action itself has numerous deficiencies and in effect, represents a "lowest common denominator" compromise. The gas inerting system requirement proposed applies only to larger vessels, although casualty data indicate that explosion potential is at least as great among vessels below 100,000 dwt as it is among larger vessels.[47] The gas inerting system requirement proposed applies only to crude oil carriers, although explosion potential equally exists for carriers of refined products and, as noted above, petroleum companies have installed such systems on product carriers in the past to reduce explosion risks. The gas

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Subsidy Board, MarAd Tanker Construction Program, Docket No. A-75 (Aug. 30, 1973).

[46] IMCO Assembly Resolution A.271 (VIII) (Nov. 20, 1973).

[47] *See, e.g.*, Porricelli, Keith and Storch, *supra* note 32.

inerting system requirement proposed applies only to new vessels, although, as noted above, there may be very few new vessels built over the next 10 years. The gas inerting system requirement proposed does not specify inert gas quality, although inert gas quality may be a significant factor in reducing corrosion rates and thus ultimately reducing the risk of structural failure, one of the leading causes of accidental spillage.[48]

Third, even with all its limitations, there is no assurance that an Assembly resolution containing a "recommendation" to member governments will be implemented. Liberia, by far the most significant nation in terms of total tonnage, has informed IMCO that it cannot implement the resolution by the recommended date, while the United Kingdom and the Netherlands have also advised IMCO that they cannot establish a standard application to ships that have keels already laid or that are at a comparable stage of construction after July 1, 1974.[49] In the United States, the Coast Guard did not adopt regulations implementing the recommendation until January 1976, and the application date ultimately chosen was January 1, 1975, rather than July 1, 1974.[50] These delays indicate again that because IMCO does not have the power to promulgate enforceable regulations, even its best efforts to combat marine pollution may ultimately be frustrated.

B. *The MEPC: A Legacy of Inertia*

If the history of the gas inerting system requirement reveals the limited nature of some of IMCO's substantive accomplishments, so do the first 2 years of the MEPC's existence reveal how the traditional bias and inertia of the organization may undercut some of IMCO's touted procedural reforms.

Perhaps the most significant structural initiative within IMCO during the last several years has been the creation of the MEPC. The MEPC is responsible for coordinating and administering IMCO's activities regarding the prevention and control of marine pollution from ships — activities previously within the jurisdiction of the MSC — and its membership is open to all members of the organization, not just maritime powers. It has been argued by some, as Robert Hallman has reported, that creation of the MEPC "blunts all prior criticism of IMCO as a tool of maritime interests and unrepresentative of the international community as a whole."[51] Yet the reality of MEPC is not equal to the expectations aroused at its creation.

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[48] In the period 1969-1972, structural failures resulted in the outflow of almost 300,000 tons of oil or approximately 37 percent of the total accidental spillage. DEP'T OF TRANSPORTATION, U.S. COAST GUARD, *supra* note 39, at 32, table B-2.

[49] M.S.C. XXII/5 (Jan. 15, 1975); M.S.C. XXII/5/Add. 1 (Feb. 25, 1975).

[50] *See* Tank Vessel Regulations, Structural Fire Protection Requirements, 41 Fed. Reg. 3838 (1976).

The MEPC was first formally proposed in a speech by the Honorable Russell E. Train before the Council of IMCO on June 5, 1973. In that speech, Mr. Train laid out a proposal for the creation within the organizational structure of IMCO of a "new permanent body to exercise its environmental responsibilities." As Chairman Train foresaw it, that new committee would "coordinate and administer all IMCO activities concerning marine pollution." It would "exercise the authority conferred on the Organization to adopt and revise regulations under international conventions for the prevention and control of vessel source pollution." Further, it would "consider on a continuing basis all related matters pertaining to pollution of the sea . . . disseminate scientific technical and economic information concerning ocean pollution and its control . . . [and] advise member states, particularly developing countries, on technical matters and provide practical information, recommendations and guidelines. . . ." concerning the effects of and means for preventing or mitigating marine pollution. Creation of the MEPC would, in Chairman Train's words, ensure that IMCO would "play a coordinated, efficient and dynamic role for the protection and improvement of the environment."

The establishment of MEPC itself, at the eighth session of the Assembly in November 1973, corresponds roughly with Chairman Train's proposal.[52] IMCO Assembly Resolution A.297 establishes the MEPC with the following Terms of Reference:[53]

> To assist IMCO in its consultation with other bodies within the United Nations system, especially the United Nations Environment Programme, and with other international organizations and expert bodies in the field of marine pollution, and to coordinate and administer, in consultation as appropriate with other bodies of IMCO, the activities of the Organization concerning the prevention and control of marine pollution from ships and in particular:
>
> (a) To perform such functions as are or may be conferred upon the Organization under international conventions for the

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[51] R. Hallman, *supra* note 15, at 48.

[52] Speech by the Honorable Russell E. Train before the Council of IMCO on June 5, 1973.

[53] IMCO Assembly Resolution A.297 (VIII) (Nov. 23, 1973).

> prevention and control of pollution from ships, particularly with respect to the adoption or amendment of regulations or other provisions, as provided for in such conventions;
>
> (b) To consider appropriate measures to facilitate the enforcement of the Conventions referred to in paragraph (a) above;
>
> (c) To provide for the acquisition and dissemination of scientific, technical and any other practical information on the prevention and control of marine pollution from ships to States, particularly developing countries, and, where appropriate, to make recommendations and to develop guidelines;
>
> (d) To promote cooperation with regional organizations concerned with the prevention of marine pollution from ships;
>
> (e) To consider and take appropriate action with respect to any other matters falling within the scope of the Organization which would contribute to the prevention and control of marine pollution from ships including cooperation on environmental matters with other international organizations.

The MEPC, as originally conceived, was meant to be an engine for reform within IMCO. Yet more than 2 years have passed since its creation, and it has done little to justify that initial conception. In that 2-year span it has only met four times — in March 1974; November 1974; June 1975; and October, 1975 — and, to date, it can only list a single significant accomplishment: the acceptance of a list of hazardous substances to be annexed to a Protocol negotiated in 1973, extending the scope of the Intervention Convention to substances other than black oils. It has taken no positive action with regard to two matters of urgent importance to the implementation of the 1973 Ship Pollution Convention: the development of means to ensure the provision and maintenance of adequate reception facilities in ports,[54] and the development of performance standards for oil discharge monitoring and control equipment.[55] The inability of states to meet these provisions of the Convention may well be major stumbling blocks to its acceptance, and any delay by the MEPC almost surely delays the ratification process. Moreover, even assuming the Convention did enter into force, until MEPC takes action with regard to reception facilities and discharge monitoring, the effect of the Convention would be severely limited.

MEPC seems to be functioning as an elaborate postponement mechanism. Many of the items referred from MEPC I to MEPC II were carried over to MEPC III, and many of the items referred from MEPC II to MEPC III were carried over to MEPC IV and have again been carried over to MEPC (scheduled to be held in May 1976). The snail's pace of previous international activity to combat marine pollution seems, in other words, to be characterizing MEPC as well.

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[54] 1973 Ship Pollution Convention, *supra* note 12, Annex I, Regulation 12.

[55] *Id.* reg. 16.

A significant test of MEPC's ability to seize the marine pollution initative may now be emerging. At its third session, held in June 1974, MEPC took note of a proposal, submitted through the Executive Director of the United Nations Environment Programme (not, it might be noted, through its own members or staff) that IMCO initiate international action towards converting idle tanker capacity into segregated ballast on existing tankers.[56] Incorporation of a segregated ballast system is the method best suited to achieve the complete elimination of operational pollution,[57] and such a proposal, if adopted, would go a long way toward meeting IMCO's own stated pollution prevention goals. Indeed, if not adopted, the intent of the international community, as evidenced in the 1973 Ship Pollution Convention, to shift to a segregated ballast standard for larger tankers may well be completely frustrated. Further, imposition of such a requirement would have the economic and political advantage of reducing the need for large, expensive reception facilities for dirty ballast, thereby perhaps facilitating acceptance of the 1973 Ship Pollution Convention, and providing needed business for both tanker owners and operators with idled tonnage and for shipyards which are no longer getting new orders.

At the third session of the MEPC, some delegations expressed interest, in principle, in the proposal to require retrofit for segregated ballast capacity. But action was not taken which would permit a rapid determination on this matter. All that was done was to request the International Chamber of Shipping and the Oil Companies International Marine Forum to consider the suggestion and report to MEPC on their findings by the end of 1975.[58] These two organizations are, of course, industry trade associations, which are unlikely to support any suggestion unless it is clearly in their own economic self-interest. MEPC, in other words, may be following the pattern of inertia set by other IMCO organs in the past: relying on industry to define the scope and content of its inquiries and only promoting or adopting marine pollution initiatives if they are acceptable to and indeed often already accepted by industry. Whether MEPC will take the lead in pushing this significant environmental proposal thus remains uncertain.

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[56] *See* Report of the Marine Environment Protection Comm. on Its Third Session, MEPC III/18, at 96-101 (July 7, 1975).

[57] *See* Note 35 *supra.*

[58] *See* Report of the Marine Environment Protection Committee on its Third Session, MEPC III/18, ¶ 96-101 (July 7, 1975).

VI. CONCLUSION

The adequacy of IMCO as the international mechanism for combatting marine pollution is yet to be demonstrated. IMCO can, of course, be no more effective than its member nations desire or permit it to be, and commercial maritime interests seem likely to continue to play the most powerful role in its deliberations. What is necessary, therefore, beyond the current structural reforms, is a shift in political consciousness in both maritime and non-maritime states, and a recognition that it is in the interest of all nations to act quickly and forcefully in order to meet the goals which the IMCO Assembly itself adopted in 1971: the complete elimination of operational pollution and the minimization of accidental pollution by the end of this decade. If such a shift does not occur then, in the foreseeable future, much greater reliance may have to be placed on unilateral state action, rather than multilateral agreement, to achieve environmentally desirable goals.

Every day that passes without affirmative action increases the risk that, sooner rather than later, the limits of the assimilative capacity of the oceans will be reached. The National Academy of Sciences has concluded:

> A basic question that remains unanswered is "At what level of petroleum hydrocarbon input into the ocean might we find irreversible damage occurring?" The sea is an enormously complex system about which our knowledge is very imperfect. The ocean may be able to accommodate petroleum hydrocarbon inputs far above those occurring today. On the other hand, the damage level may be with an order of magnitude of present inputs to the sea. Unless we come closer to answering this basic question, it seems wisest to continue our efforts in the international control of inputs and to push forward research to reduce our current level of uncertainty.[59]

Whether the international community, acting through IMCO, will properly heed this warning remains to be seen.

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[59] *See* NATIONAL ACADEMY OF SCIENCES, *supra* note 4, at 107.

Mr. Burton. Next we have Mr. James Cole and Mr. Zusi. Mr. Cole is with Texaco and Mr. Zusi is with Exxon International; these gentlemen are here as representatives of the American Petroleum Institute.

I understand you will submit your statement for the record and make some comments.

STATEMENT OF JAMES A. COLE, JR., GENERAL MANAGER, MARINE DEPARTMENT, TEXACO, INC., AMERICAN PETROLEUM INSTITUTE; ACCOMPANIED BY F. ZUSI, ASSISTANT MANAGER, TANKER DEPARTMENT, EXXON INTERNATIONAL CO.

Mr. Cole. We will, Mr. Chairman, if in the interest of brevity you desire that we do so.

Mr. Chairman, my name is James A. Cole, Jr. I am general manager of the Marine Department of Texaco, Inc., and I am appearing here today on behalf of the American Petroleum Institute, or as it is commonly known, API. With me today is Mr. F. Zusi, assistant manager, Tanker Department, Exxon International Co.

I will dispense with reading the pedigree of the API companies, if that's satisfactory with you.

Mr. Burton. Thank you.

Mr. Cole. With respect to the President's fact sheet of the other day I think that API can say we are pleased to see what the President has come up with. I think in the short span of time they have come up with some very good points.

From what we understand, I think that the tanker operators can support many of these initiatives.

I am pleased to see that the President is considering dealing in the international sphere. I think it's long overdue. This country was, for many years, a strong force in moving toward greater international effort—I think out of the 18 IMCO conventions that have been enacted, 10 are actually now law and the United States has only ratified 8 of these. We are pleased to see this effort internationally.

As a matter of fact, many of the initiatives suggested by the President are very similar to those which API has put forth in the past. Some of them such as the radars, or collision avoidance, and perhaps the steering systems, we feel, should apply to all ships not just tankers. I would hope that in the course of promulgating the regulations that the Coast Guard will take this into consideration.

However, and this is borne out in our written testimony here and in testimony which was made before several bodies in the Congress in the past, API feels that ship design changes can do little to prevent tanker accidents or mitigate the consequences. The earlier API comments on double bottoms, double hulls, and segregated ballast systems are still valid. Furthermore, we do not currently believe that there is a necessity for inert gas on smaller tankers. Inert gas systems are being installed on the larger vessels—over 100,000 deadweight tons—but for a very different reason than what is being contemplated in this proposed rulemaking.

Without going into detail on the U.S. Coast Guard, and our testimony speaks to this in considerable detail, we fully support everything that the Coast Guard has done to date. We have some additional recommendations on measures that they might take; some additional ideas on equipment that is in addition to what has been proposed in the past that we feel might very well be placed on these vessels.

Furthermore, speaking to Art McKenzie's commentary this morning, and I might add that we at Texaco are in the process of subscribing to his system—his fully computerized system will not be onstream until May 1 of this year—and I think that it is a very worthwhile thing. Admittedly it's not perfect, but to my knowledge it's the best compilation of such material in the world today.

Mr. BURTON. Do you think the Coast Guard ought to subscribe to it?

Mr. COLE. They can. For the cost involved, we're talking on the order of $4,000 a year subscription. You can enter it into your own processing terminals in your corporate offices. We're looking at a total expenditure of something like $30,000 a year. We do a lot of chartering in the millions of dollars on voyage charters alone. Access to that information will be invaluable to us.

Furthermore, I think the Coast Guard should make available in the public domain the information that they have on these substandard ships. I think that we are enjoined from advising each other. You've got the small operator, the cargo lot purchaser, the little refiner who does not have access to this material or doesn't have a staff to do it. I think if the Coast Guard publishes this list of substandard ships, it will, first of all, give everyone knowledge. Second, I think it will be a major force or factor in getting rid of those ships. I don't think that anyone supports the rust buckets. I think whether it be government, industry, or whomever it may be, we all have a responsibility to see that they are effectively driven off the seas.

I think that with that, Mr. Chairman, and on a brief commentary that pretty much concludes our material. We furnished the committee with the full details of our testimony.

Mr. BURTON. Without objection, your written statement will be inserted in the record at this point.

[Mr. Cole's prepared statement follows:]

PREPARED STATEMENT OF JAMES A. COLE, JR., TEXACO, INC., AMERICAN PETROLEUM INSTITUTE

Mr. Chairman, my name is James A. Cole, Jr. I am General Manager of the Marine Department of Texaco, Inc., and I am appearing here today on behalf of the American Petroleum Institute, or as it is commonly known, API. With me today is Mr. F. Zusi, Assistant Manager, Tanker Department, Exxon International Company.

API member companies, including some independent U. S. flag tanker companies, own and operate in excess of 150 U. S. flag tankers with an aggregate capacity of more than 6.0 million deadweight tons. This represents 2/3 of the privately owned U. S. flag tanker fleet. In addition, our member companies have under construction or have announced plans for roughly 20 additional U. S. flag tankers with a capacity in excess of 3.3 million deadweight tons. Our companies also charter the bulk of the independently owned U. S. flag tanker fleet.

Mr. Chairman, API member companies have been shocked and concerned at the rash of recent tanker accidents in and near U. S. waters which have caused pollution and in some instances loss of life. The Institute has reexamined all facets of tanker operations related to safety and prevention of accidental pollution, and it is felt that a number of concrete recommendations can be made. Many of these parallel provisions of several bills now before the Congress. API feels it is vital to identify those contributions which can most effectively be made by each party or organization bearing a measure of responsibility for marine safety. These parties include governments, industry, and international organizations. Therefore, my testimony today will summarize API's recommendations under the parties who we feel could most effectively bring about implementation.

ACTION BY ALL PARTIES

If action plans are to have the greatest probability of success, it is fundamental to recognize the key elements of the problem which we are collectively seeking to solve. Recognition of the reasons for tanker safety problems and of the most promising remedies is the responsibility of all parties. We believe the major elements of the problem and the general solutions are the following:

A relatively small number of ships are operated to unacceptable standards.

Analysis by governments, industry and the insurance community has repeatedly confirmed that the majority of ships and crews of many nationalities adhere to satisfactory standards and procedures, and the records of major ship accidents confirm this. Condemnation of tankers solely on the basis of flag or age will not eliminate the problem.

Most navigational accidents (Grounding/Collisions) result from human error.

Studies by the National Transportation Safety Board, Coast Guard and individual owners have repeatedly shown personnel error to be responsible for navigational accidents. Either adequately trained people failed to follow procedures with which they were thoroughly familiar, or in other cases less competent persons have acted irresponsibly. Failure of navigational or maneuvering equipment is rarely the primary cause. In fact, Coast Guard data presented from 1969-1973 showed only 2% of major tanker accidents resulted from breakdowns of any type. It is noted in the introductory remarks of Senate bill 682 that approximately 85% of all maritime accidents are caused by human error. We agree and thus feel justified in saying that the key to tanker safety lies with the crew and officers who man the tankers and not with the vessels themselves.

Great publicity has been given to recent casualties involving Liberian and Panamanian flag vessels but I would suggest that the problem is not one of flag.

In recent testimony before the Merchant Marine Subcommittee of the Senate Committee on Commerce, the record of recent casualties in but one U. S. flag company was mentioned. Here is a partial list of accidents recently experienced by this subsidized U. S. Flag company whose vessels are manned by American seamen:

- A U. S. vessel struck and sank a Korean coastal vessel with the loss of all hands (18) from the Korean ship.
- A U. S. vessel grounded entering Taiwan, due to navigational error, with the ship a total loss.
- A U. S. ship ran away in Yokohama Harbor due to error in the engine room, resulting in very heavy damage to barges, breakwater and to the ship.
- A U. S. vessel grounded off Java in Indonesia, resulting in extremely heavy bottom and machinery damage.
- A U. S. crew permitted boiler and turbine to salt up to such an extent that the ship was left at sea without power, finally towed into Hong Kong just before grounding.

I make this point to emphasize that accidents can happen to any ship regardless of flag.

Ship design can do little to prevent or mitigate consequences of tanker navigation accidents.

Studies by the Coast Guard, IMCO (Intergovernmental Maritime Consultative Organization) and industry have repeatedly shown that attempting to prevent or mitigate accidental pollution by design measures is ineffective.

In a statement before the Senate Commerce Committee Oversight Hearings on Ports and Waterways Safety Act of 1972, in March 1976, Mr. William O. Gray* addressed specifically most of the technical aspects of tanker design which might have a bearing upon accident prevention or mitigation of oil outflow. API supports that statement as being the most technically competent assessment of the issues. We append a copy of that statement for the record of these hearings. I have also appended a copy of an API booklet on tankers for your information. I would like to discuss again today the most significant conclusions of Mr. Gray's statement.

Despite assertions to the contrary, modern tanker maneuvering capability is excellent and further changes to the rudders, propellers, or main engine power of newer tankers would have virtually no impact upon their turning or stopping performance. Legislative proposals to require one shaft horsepower for each 2-1/2 deadweight tons in both existing and new vessels, for example, would be wasteful and nonproductive in the extreme. The cost of applying this to existing vessels would probably exceed the replacement cost of such vessels. In the testimony just referred to, however, it was shown that less than one knot speed reduction was of greater benefit than doubling a ship's astern power. We have as well the example of modern cargo and container ships with these high power

* Exxon Corporation

levels for other reasons. There is no evidence from pilots or masters that their handling is improved by these very high powers.

Regarding redundant propulsion sources, I have already mentioned that U. S. Coast Guard records show breakdowns to be responsible for only about 2% of major tanker accidents. We would support any further codification of the best of present practice in regard to redundancy in electrical, lube oil and feedwater systems, but we are convinced that there is no technical foundation for multiple boilers, main engines or propellers.

Double hulls and double bottoms for new tankers have been discussed so often that there is hardly more than can be said. All previous in-depth studies of benefits or drawbacks have clearly shown that even under the most favorable circumstances, they would have a very small impact on the incidents involving a large amount of pollution. In addition, there are counterproductive aspects to these designs. Further, the costs which eventually would be borne by consumers, are substantial.

Retrofitting of segregated ballast to existing tankers has been the subject of IMCO and public debate for almost two years. Now, we feel the answers to this proposal are clear:

First, the smaller tankers carrying mainly product generally wash cargo tanks so frequently and carry such substantial amounts of ballast that the segregated ballast concept could do little to reduce operational discharges. This was established by a joint government/industry study completed in 1973 (U. S. Government Study I, Part II, Segregated Ballast Tankers), and the facts have not changed since then.

Second, while segregated ballast seems capable of offering some advantage for larger tankers carrying crude oil it is by no means a complete solution as it cannot reduce potential discharge associated with oily sludge. Furthermore, and of particular interest to U. S. citizens, it would very likely increase pollution of our waters due to traffic congestion and have a negative influence on deepwater ports. API provided an analysis of these important matters to the Coast Guard last year (API letter of June 29, 1976, copy attached) and it is noted that a study (O.R.I. report CG-M-D6-77 of Oct. '76), done for the Coast Guard by an outside consultant last year confirmed these conclusions.

In a bill now before the Senate, S.682, one provision would require inert gas for all oil tankers larger than 20,000 DWT. API believes this requirement to be unnecessary for the smaller tankers which use lower capacity tank washing machines.

Advanced navigation equipment is available and can be effective. Development in the past few years have shown the advantages of a variety of new navigation and communication equipment. Progressive owners have followed such equipment through the developmental phase to the point where many items of equipment are already standard and should now become mandatory.

Ratification and enforcement of international standards is vital to improvement.

Far greater recognition should be given to the quality of work and standards developed at IMCO which have come about through the non-political consultation of technical experts from around the world.

Limited unilateral action by the U. S. where absolutely necessary and by other concerned nations, can be supported and it could strengthen eventual international safety/environmental protection.

API believes the U. S. should take unilateral action only in those cases where there is clearly an unacceptable delay in bringing international standards into force. API recommends further that through diplomatic channels, the U. S. should concurrently urge its traditional allies and major trading partners in Europe, the United Kingdom and Japan to do so as well.

ACTION BY GOVERNMENT

API's analysis suggests governmental action be taken in the United States fundamentally at two levels, that which the Coast Guard might take in the near future, and that which should be taken by the Congress/Administration on behalf of the U. S. as a whole.

The Institute has recently been informed, in general terms, of President Carter's tanker safety and pollution prevention initiatives. From what is understood, it is believed that the tanker operators can embrace many of these initiatives. As a matter of fact, many of them are very similar to those put forth by API. However, it must be repeated that ship design changes can do little to mitigate the consequences of tanker safety accidents. The earlier API comments on double bottoms, double hulls, and segregated ballast systems are still valid.

U. S. Coast Guard

API strongly supports various recent actions and proposals by the Goast Guard which include the following:

- In-port inspection of tankers of all flags has and should continue to be tightened to ensure both the integrity of the cargo handling system, and basic navigation gear. In addition, we would support a system whereby arriving vessels are required to report major deficiencies to Coast Guard in advance of scheduled arrival. In this regard, we do not support the concept of high seas boarding and inspection, or the establishment of a 200-mile maritime safety zone, as being necessary or desirable.

- In-port inspection of tankers should be extended to include investigation of the means used to calculate hull loading stresses and to determine that records of the calculations are available on board.

- API supports each of the navigation equipment, procedural, and inspection requirements issued by Coast Guard for ships of all flags, and types, larger than 1600 GRT in January 1977.

In addition, API recommends the extension by the Coast Guard of the requirements as soon as possible to include the following equipment:

(I) Speed indicator for use in shallow water.
(II) Second radar or collision avoidance system.
(III) Loran-C, and other electronic position-fixing equipment compatible with area of expected trade.
(IV) Rate of turn indicator for ships of 100,000 GRT and above.

API strongly recommends that concurrent with issue of U. S. regulations for measures of the type described above; the Coast Guard introduce identical proposals at IMCO to the extent that they do not already exist, and urges as well that the Coast Guard attempt to enlist support for similar limited unilateral regulation making by maritime regulation agencies in U. K., Europe, Japan. The Coast Guard also should seek unilateral actions from the governments of Liberia and Panama.

API supports the Coast Guard's installation of advisory vessel traffic systems (VTS) and would welcome an acceleration and extention of VTS where a clear need exists. API believes that all vessels should be obliged to use these system.

Coast Guard should continue to place top priority on preparation for the '78 IMCO/International Labor Organization (ILO) conference on training and certification. In this endeavor, they will receive the support of industry. Specific features should include, among others:

(I) The concept that officer and pilot licenses must be obtained on the basis of demonstrated proficiency.

(II) The concept that effective international standards for training must be developed and enforced for officers and seafarers at all levels.

(III) The concept that officer and pilot proficiency, as well as physical and mental health, must periodically be examined.

(IV) In addition, the conference should develop standards for watchkeeping, navigating, and pilot/master information exchange.

API notes that S.682 addresses itself to many of these topics including navigation equipment and criteria for the training and licensing of ship officers and pilots. We believe that our approaches on these important matters are similar and we would be pleased to work out details on these proposals. We would note, however, that we believe eventual implementation should be by means of regulatory process and not congressional mandate.

Congress/Administration

API's analysis suggests that there are a number of possible actions of a broad policy type which would require the action and authority of the Congress and Executive branch. We recommend the following action:

> API urges immediate U. S. action to ratify a number of IMCO Conventions:
>
> 1. The 1969 Civil Liability Convention and the
> 2. 1971 Fund convention which together would set up an international regime of liability and compensation in the case of oil spills.
> 3. The 1973 Marine Pollution Prevention Convention would be a major step towards virtual elimination of operational discharges from pollutants of all types, and from ships of all types. U. S. action on this convention could trigger prompt international action as the Convention is frequently identified with the 1970

U. S. initiative which brought it about in the first place.

4. The 1974 Safety of Life at Sea Convention (SOLAS 74) would bring into force important newer navigation and safety measures already adopted by IMCO and recommended to governments, but not yet brought into force.

- API urges Congress to speedily adopt a single, uniform, national oil spill liability and compensation legislation which would replace the current fragmented and overlapping systems at both the Federal and state levels. This legislation should embrace the 1969 and 1971 IMCO Conventions mentioned above. This would bring together in one regime, provisions for liability and compensation for any oil spill, from any source, into any waters of the United States.

- API urges the government to take whatever steps may be needed to assure that the Coast Guard has the authortity and funding to develop and make available the results of vessel inspections in a way designed to identify substandard ships. It further urges the government to take steps through diplomatic channels to suggest similar action by other nations.

- API urges the federal government to exercise its authority to preempt state and local regulation of maritime matters.

- API recommends that the government act to place sole licensing and effective disciplinary control of all marine pilots under a central federal authority, and that the criteria for selection and performance of pilots be based upon proficiency demonstrations.

- API recommends that the government take steps to require all tankers enterning U. S. ports to have on board documents identifying both ship and cargo owners.

By governments internationally

API believes that because of the truly international nature of maritime commerce, the only logical system for worldwide safety and environmental protection is one created by and enforced on an international basis. We believe this to have been fundamental in the thinking of the United Nations when they adopted the IMCO Convention in 1959. IMCO has made remarkable strides towards adequate safety and environmental protection, and that now, with over 100 member countries, it is capable of being the focal point for further progress.

ACTION BY INDUSTRY

As indicated earlier, API strongly supports appropriate international and national legislative and regulatory action to reduce tanker accidents. API also believes, however, that each individual company should take the initiative in separately developing its own procedures designed to promote safe shipping operations and to provide environmental protection, and that this is just as essential as governmental action.

More specifically, API recommends that the following action be taken separately by individual companies. These recommendations are based in large part upon the experience of its members engaged in vessel operation and vessel chartering activities.

Recommended Action by Shipowners

API recommends that each shipowner to the best of his ability explore and adopt measures which will improve his current practices for the recruiting, training, and advancement of seagoing personnel within his fleet and that he develop new and innovative measures for this purpose. We urge that each shipowner similarly develop, test and utilize improved and new navigational and safety equipment and guides for their effective use. We believe that classification societies should review their survey, inspection and other requirements, with particular reference to older vessels. Obviously it is fundamental that each shipowner maintain the vessesl in his fleet in such condition at all times as will not only meet, but exceed where appropriate, legal and other criteria for seaworthiness and pollution prevention.

Recommended Action by Charterers

API recommends that before a prospective charterer enters into an agreement, he should separately develop his own criteria with respect to environmental protection and safety which should be met by vessels. Also, each charterer should encourage the ship owner with whom he deals to utilize equipment best calculated to promote safety and environmental protection. Each charterer should recognize the need for owners of chartered vessels to be adequately compensated for modernized and expanded equipment designed to further safe navigation and avoidance of pollution and for offering vessels which are maintained in a conditon at least meeting minimum applicable standards. Further, each charter should consider favorable steps to assure that the shipowner maintain his vessel in first class condition throughout the life of the particular charter.

Recommended Action for Both Shipowners and Charterers

API believes that shipowning and ship chartering companies have a vital and responsible role to play not only within API but in other industry organizations as well, such as the American Institute of Merchant Shipping (AIMS), the Oil Companies International Marine Forum (OCIMF), International Tanker Owners Pollution Federation (ITOPF) and the International Chamber of Shipping (through membership in national shipping organizations). Through these organizations industry encourages and supports international and national measures, and other appropriate action to promote safe vessel operations and environmental protection.

Mr. Chairman, the problem really lies with the "rusty bucket" or the substandard ship, operated by poorly trained people. International organizations, national governments and responsible shipowners and operators cannot tolerate these irresponsible operators. We firmly believe that if our recommendations are implemented progress will be made toward reducing tanker accidents and pollution incidents while ensuring a steady supply of petroleum to the customer at reasonable cost.

ATTACHMENT I

STATEMENT OF W. O. GRAY

before

SENATE COMMITTEE ON COMMERCE

OVERSIGHT HEARINGS

on

PORTS & WATERWAYS SAFETY ACT OF 1972

(Public Law 92-340)

March 3, 1976

My name is William O. Gray. I am pleased to be here in response to Senator Magnuson's letter to me of February 19th, asking for my views on the adequacy of regulatory action under the Ports & Waterways Safety Act of 1972-Public Law 92-340.

For your information, I was graduated from Yale University in 1953 with a Bachelor's Degree in Mechanical Engineering, and from the University of Michigan in 1955 with a Bachelor's Degree in Naval Architecture and Marine Engineering. I then served nearly three and one-half years as a commissioned officer in the U. S. Naval Reserve with the majority of that time being spent at sea as an ASW and Gunnery Officer on a destroyer-escort. In this capacity I stood regular deck watches and during the majority of this service I was qualified for command at sea of U. S. naval vessels.

From 1959 to 1964, I was employed in the Central Technical Department of the Bethlehem Steel Company's Shipbuilding Division, and in this capacity was engaged in preliminary and structural design of vessels of all types, but with particular emphasis on oil tankers.

From 1964 to the present, I have been employed by Exxon Corporation having held a series of positions, all in the field of marine transportation. For a period of six years, I managed the Corporation's overall marine research program, and in this capacity was responsible for directing research and technical studies of tanker maneuvering and pollution abatement measures. More recently, I have been directly concerned with safety and environmental measures for tankers and regulations addressing this field.

I would like to review for you my views on how technical factors can help to protect shipboard personnel and the marine environment. I will at times stress the very real limitations of purely technological solutions where these exist, and make reference to operational or people-oriented solutions which in many cases have the greatest potential.

In the interest of time, I will mention only briefly measures for controlling operational as opposed to accidental discharges. I fully support the actions taken by the Coast Guard to implement the ship-associated provisions of the 1973 IMCO Convention. My company was among the earliest and strongest industry advocates of a new and more broadly based set of international controls on the discharge of oils of all types anywhere in the world. I have appended to my statement a copy of the document "The Abatement of Sea Pollution by Tankers" which sets out the position adopted by Exxon well in advance of the 1973 Convention. I participated as an industry delegate throughout the 1973 Conference, and my own views are given in the paper "The 1973 IMCO Convention: A Tanker Operator's Viewpoint" presented in March 1975, also appended. I feel there is a critical need for governments, and particularly the U.S. Government because of its pivotal role in promoting and drafting, to ratify the 1973 IMCO Convention. I believe that bringing this Convention into force will do more to eliminate tanker source pollution of the oceans and of U.S. waters than any other single step.

I would like to mention two other factors before turning to accidental pollution:

o First, it is well to keep in mind that operational discharges both from tankers and other types of ships are still a much larger source of oil input to the sea than accidents.[1]*

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* A list of pertinent footnotes is appended hereto.

o Second, significant technological and operational progress on the control of operational pollution continues to be made, primarily in my view through industry efforts. A thorough international review of these matters will take place in two weeks time at the IMCO Symposium in Acapulco, Mexico. I would only at this time invite attention to three particular areas:

(1) Oil-in-water monitor developments in the last two years have been encouraging, so that the possibility of having reliable and reasonably accurate shipboard monitors is now coming closer.[2]

(2) A new technique involving the use of crude oil rather than water for washing larger inerted tankers is now being adopted, and it shows promise of being an extremely effective pollution abatement measure.[3]

(3) Progress seems finally to be getting underway in solving the difficult problems of providing adequate and effective reception facilities ashore at the proper locations.

Accordingly, I believe substantial progress has been made, and will continue to be made, particularly if governments will now ratify the 1973 IMCO Convention.

I wish I were as confident about progress being made to prevent oil pollution from tanker accidents, but I am not. The basic statistics on oil pollution of the seas reviewed by you in 1971[4], and recently updated[5] through 1973 tell the story. There are far too many ship accidents involving tankers, and far too much oil being spilled in the process. I know you gentlemen are familiar with these data, so I will only at this point refer you to the fact that in discussing worldwide pollution from tanker accidents, Messrs. Card and Snider said:

> "most of the total oil outflow (81%) is a result of tankship sinkings, even though less than 2% of all tankship involvements result in the vessel sinking. The 15 vessels lost due to structural failure accounted for 34% of the total oil outflow from tankship accidents. Because of their contribution to oil outflows, a more detailed study was made of tankship total losses. There were 47 tankships of over 10,000 deadweight tons that were total losses during the 1969-1973 period. They were responsible for 81% of the total oil outflows of 951,000 long tons. Table 6 shows that most of these involved a sequence of failure events. Table 7 gives additional detail on the events leading to loss of structural integrity and sinking of the tankship."
> (Ref. 5, p. 208)

Obviously priority efforts must be directed at preventing a rather small number of tanker sinkings, and principally at those which result from structural failure, groundings and collisions. It is well to note further that most of the deaths and major injuries result from collisions, usually followed by fire, and fire/explosions. What then can be done?

Preventing structural failures is obviously a technical problem in the first instance demanding sound design and construction. In my view the progress made in improved structural design in the past few years has been outstanding, and most of it has been brought about by the international cooperation of enlightened tanker owners, builders and classification societies. The computer design techniques used now are closely akin to those used in the aircraft industry, and the progress on welding, metallurgy and inspection techniques, much of it from Japan, is indeed remarkable. More specifics on industry programs in this respect are given in the booklet "Very Large Crude Carriers" prepared by my company last year and appended to this statement.

Any mechanical device is subject to failure without vigilant maintenance and inspection programs; your car, an aircraft and even a tanker. Certainly the high incidence of losses in ships 15-20 years old regardless of size, type or flag suggests the need to look more closely at inspection and maintenance policies and requirements for the older ships.

Collisions and groundings are a different matter. Here the evidence is overwhelming that the majority of these accidents are the direct result of people on ships. Either they did something they shouldn't, or didn't do something they should, and usually they knew it but failed to avoid the accident anyway. I know this, the Coast Guard knows this and the Congress must know it, as the obvious solution for many of these accidents is traffic control as mandated by Title I. I think all agree that particularly for the prevention of collisions, and many harbor groundings as well, VTS* is clearly the most effective answer. It is indeed unfortunate that here we are in the mid-seventies just inaugurating VTS in U.S. waters when significant numbers of other countries are going into second and third generation systems following in some cases over 20 years of outstanding experience with VTS.

Even more fundamental than VTS in my estimation, however, is the quality and performance of the people in charge of ships of all types principally the deck officers and pilots.

However, paragraph 1 of Title II says, if I may paraphrase, that "the Congress finds...existing standards of design, construction...must be improved on..." and in paragraph 7 goes on to specify that "regulations...shall improve vessel maneuvering and stopping ability, reduce possibility of collisions and groundings and reduce cargo loss following...accidents". I find this desire to make tankers themselves "accident proof" entirely understandable, just as I want the safest possible automobile to drive, or plane to fly in with my family. Just as with those other moving objects however large amounts of energy are involved so it becomes virtually impossible to build in safety features which will be truly effective in preventing oil outflow following severe accidents. Nonetheless, if some degree of effectiveness is in prospect, a concept must be seriously considered.

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* VTS means vessel traffic systems.

Adequate maneuvering capability for ships of all types should obviously be a prerequisite to entering harbors, shallow waters or traffic situations. In my opinion most modern tankers already possess excellent inherent maneuvering capability, and additional fundamental propeller, rudder, or power plant design changes would usually provide no measurable improvement in their performance. In this regard, I must respectfully disagree with the many allegations to the contrary. I feel from the material referenced therein and the statements included in Seante Report 92-724, particularly on pages 17, 18 and 19 that the Senate has perhaps not been adequately informed as to the maneuverability of tankers generally and particularly new large tankers (VLCC's). The Senate report makes general reference to maneuvering inadequacy, and then alludes to promising devices for consideration, some of which had initially been described by Messrs. Porricelli et al.[4] Nowhere, however, can I find that the value of these devices was considered. Also, the Porricelli paper appears to be the principal technical reference actually considered in your 1971-2 hearings.

A paper which I presented in 1973 entitled "Large Tanker Maneuvering" which I believe puts the subject in truer perspective is appended. The work described therein was largely conducted by Exxon research naval architects starting in the mid-sixties with a broad program to study theoretical and practical aspects of tanker maneuvering. This work is described in greater detail in two papers presented by Messrs. van Berlekom, Goddard[6] and Crane[7] in the years 1972 and 1973 to the Society of Naval Architects and Marine Engineers. The technical quality of this work is I believe attested to by the fact that van Berlekom and Goddard received the SNAME prize for best paper of 1972, and Crane received honorable mention in 1973 for his paper.

I will not attempt here to review these technical studies, but I commend them for review by the appropriate technical groups or agencies. I would like, however, to summarize some of the most significant findings, supporting them as appropriate with certain practical observations bearing on this subject of maneuvering.

The basic test of adequate maneuverability for any ship is that its behavior must be predictable and reliable under all circumstances to be encountered. This includes the ability to go straight, to turn, and to stop in both deep and shallow water, and at a range of speeds down to a few knots. Well designed modern tankers with single screws and single rudders meet these criteria admirably and have repeatedly shown so. Let me cite some examples.

For over five years now underway lightering of VLCC's by smaller tankers of 30,000 to 115,000 DWT has been taking place entirely safely and routinely, often in very shallow water, during either day or night, and without any tug or lateral thruster assistance. I am no expert on this but have been aboard a 225,000 DWT VLCC during such an operation conducted at under 3 knots speed with, at times, 10 feet or less of water under the keel. Steering and course control of the ship was excellent throughout. My company has recently conducted full scale trials of tankers moored together while underway, over a wide range of conditions and found coursekeeping, steering and speed control excellent throughout.

Discussion with pilots and masters handling the new larger tankers has repeatedly indicated that those with first-hand knowledge of the ships regard modern tankers, and particularly VLCC's, as amongst the most maneuverable, well-found ships in the world. In my own conversations with pilots, more often than not it is the large high-powered multi-screw container ships about which most complaints are heard due to their tendency to be blown about by wind.

The experience gained with tens of thousands of tankers successfully transiting the Suez Canal, both loaded and in ballast, has repeatedly shown that narrow shallow waterways can safely be negotiated by this class of ship. In order to verify these operational experiences my company made extensive technical investigations, including full scale trials in the Suez with a 90,000 DWT tanker in 1965 and modeling of the crucial parts of the Canal in 1967 for training VLCC masters at Port Revel in Grenoble, France.

There are numerous other practical and theoretical examples of the maneuvering ability of modern tankers, but I hope those given make my point. It is therefore with a sense of amazement and frustration that we see repeated statements suggesting that tankers, particularly large ones, can't maneuver predictably. One such article[8] appearing last year under the prestigious auspices of the National Academy of Sciences, and referring to hydrodynamicists at three of our nation's leading universities would, I'm sure, lead its readers to believe both that shallow water effects were invented by VLCC's, and that these ships are unmanageable at something under six knots. This is complete nonsense as any one who has sailed or handled these ships knows. The only explanation I can find for such beliefs, and for the fact that a good deal of the research in the U. S. is just now starting to study subjects long since investigated in Europe and Japan is the fact much of our marine scientific community has not participated in investigations of tanker maneuvering which have taken place around the rest of the world. For instance, 1976 will see the commissioning of the first ship-handling simulators in the U. S. whereas Holland already had two at the beginning of the decade. And the Grenoble model training facility built by Exxon ten years ago has not yet been duplicated.

Perhaps against this background, it is not surprising to see so-called maneuvering proposals of the type under consideration now in Alaska, and already mandated by the state of Washington, supposedly to improve ship stopping. We investigated all of these concepts, and more, in the early '70's and if I may quote from my 1973 paper:

> "A variety of means have been suggested for decreasing the stopping distance of large tankers, particularly for stopping from high speeds. Regrettably the technical viability, and the effectiveness of some of the more extreme suggestions are frequently omitted by their proponents. We have compared some of these in Table 1 in terms of what might be needed to achieve a 20% reduction in estimated stopping distance from a full speed of 16 knots.

Table 1

FOR A 20% REDUCTION FROM 16 KNOTS

Water Parachutes	Twelve 10-foot-diameter parachutes towed alongside the ship.
Water Brake Flaps	One flap on each side of the ship, extending perpendicularly out from the ship's sides like ears. Each flap 10 feet wide and 30 feet high.
Braking Rockets	Total rocket motor thrust of 80,000 pounds for 8 minutes. Could be accomplished with 8 rockets operating consecutively for one minute each.
Braking Jet Engines	4 Boeing 707-type engines operated at near take-off condition. (These would have a total sustained thrust of 35 long tons or 20,000 pounds each.)

Without having investigated the economics or structural requirements for any of these schemes, we would characterize them as very likely being expensive, not very effective and, in some cases even dangerous. Some represent essentially "1 shot" measures as well. Higher backing power is also being suggested as a means for decreasing stopping distance. To be consistent with the table above and to achieve a 20% reduction in stopping distance from a speed of 16 knots would require an 80% increase in a VLCC's backing power. While this is technically possible we think it more to the point to recognize that the same 20% reduction in stopping distance could be achieved by simply reducing the initial speed from 16 to 14 knots.

While the above data relate to stopping from full speed, we believe a more important matter involves stopping from a slow maneuvering speed such as 6 knots. Table 2 summarizes approximate reductions in stopping distance for various design changes for a VLCC operating at 6 knots.

Table 2

PROPULSION ARRANGEMENT	% REDUCTION OF STOPPING DISTANCE
Steam Turbine	Base Case
Double Astern Power	20-25%
Double Astern Power with Increased Propeller Diameter	Roughly 30%
Slow-Speed Diesel	About 20%
Kort Nozzle	15-20%
Controllable-Pitch Propeller	Up to 20%

For most of these design changes, the reduction in stopping distances must be called significant. Yet a one-knot reduction in maneuvering speed can overshadow the effect of any of these design changes. To state it more precisely, a tanker operating at 6 knots can reduce required stopping distance by 20% with a reduction in speed of just .6 knots. Therefore, the advantage of using a somewhat slower maneuvering speed must still be stressed even at the slower speeds normally used in channels."

To me, if a 1/2 to 3/4 knot speed change can have more effect on stopping performance than any of those devices, mandating such technical features not only makes no sense, but it will lead to a false sense of security. I personally believe this may be the case as well with the concept of escort tugs in more open waterways.

What then can be recommended for assuring adequate maneuvering performance equivalent to that of the better ships today? Aside from assuring properly qualified people aboard ship, and VTS, which I consider most important, I think these technical approaches have merit:

(1) Codifying the better present practices that are agreed to actually influence maneuverability should be considered. This could include mainly rudder size and astern thrust. It should not include bow or stern thrusters, which, although excellent on medium size ships with frequent mooring requirements and no tug assistance, offer no improvement for larger ships docking infrequently.

(2) Reliability criteria for essential rudder and power systems. You may recall that our 40,000 DWT tanker ESSO BRUSSELS was struck while at anchor three years ago by a container ship, allegedly because of a minor component failure in the steering system. What you may not know was that rules under consideration at that time for steering gear reliability were being drafted only for ships at least four times larger than the one which caused that accident. At our urging, and by citing the ESSO BRUSSELS case, the lower limit of applicability is now being considered at a value covering large tug boats, as it should.

(3) Regulations for truly useful equipment to assist the shiphandler should be considered. In this regard I would certainly include two radars and gyro compasses. For larger ships, I think serious thought also should be given to good ground speed indicators, rate of turn indicators and collision avoidance systems. My company's research into each of these devices goes back into the sixties, and I think they can all now be classed as useful and no longer experimental. On June 28, 1974, the Coast Guard published preliminary proposals along these lines and I would like to see further steps in this direction, particularly as a U. S. initiative to IMCO.

Before leaving maneuvering, I would like to add that in early June 1974 AIMS put some of these thoughts on maneuvering in the form of a proposal to the Coast Guard with the objective of conducting a broad multi-disciplinary study of all aspects of the subject.[9] I personally am disappointed that we haven't moved further in this direction and hope that we may soon do so.

The other aspect of accidental pollution control to consider is mitigation. There are still those in the U. S. who believe that ship design features such as double hull or double bottom can do a lot to reduce accidental oil discharges. I disagree. I can't in the time available discuss all facets of this question, but let me however refer you to portions of a booklet issued in 1974 by AIMS entitled, "Tanker Double Bottoms, Yes or No?" which I have appended to my statement. Pages 5 and 6 describe what will happen in a serious grounding as follows:

> "What then would the situation be if a double bottom construction were used for tankers? At first glance it would appear to be "the best of all possible worlds" combining the inherent double bottom safety factor found by many years of dry cargo ship experience with the greater compartmentation and flooding resistance traditionally found in tankers. To the extent that this could happen without any harmful side effects it would seem to benefit both the tanker's own safety, and to minimize oil outflow to the sea.
>
> Unfortunately, it appears likely that there will be several substantial and harmful "side effects."
>
> Putting empty double bottom tanks beneath the length and breadth of a loaded tanker ensures that in any grounding where the bottom is pierced the tanker will sink deeper into the water, even if its cargo holds are not ruptured. Because of flooding in empty double bottom tanks the tanker will almost certainly heel or lean over substantially to one side or the other, further complicating its problems or impaling it on the bottom. It is crucial to recognize that quick action to free and float a grounded ship before it can break up and spill its entire cargo is nearly always the key to successful salvage.
>
> A firmly grounded double bottom tanker might therefore have to jettison substantial amounts of oil cargo in order to be saved from catastrophic loss

and major pollution of the seas. For the double bottom tanker to maintain buoyancy and stability equivalent to the single bottom tanker, the amount of oil which would have to be transferred to a lightering vessel, or jettisoned if no lighter is available, may well be 6-8% of its total cargo. This equates to roughly 15-30,000 tons for a single VLCC - an amount roughly 1/4 to 1/2 the total oil outflow from all tanker groundings in a given year. Obviously if the double bottom vessel cannot be quickly salvaged, and breaks up even partially, the potential oil spillage could greatly exceed total worldwide spillage of some 50,000 tons which the U.S. Coast Guard currently estimates from tanker groundings."

Further, as described in the footnote on page 6:

"The sinkage problem will also be a factor in new segregated ballast tankers with empty ballast tanks. Since the probability of rupturing these tanks is only 20-30% of that with double bottoms however, it is an acceptable drawback in the segregated ballast concept which has other significant advantages."

You might question the probability of these events taking place. Review of the circumstances surrounding the 1974 grounding in Chile of the VLCC METULA indicates that a situation very similar to this in fact occurred, except that it was so serious that an inner bottom, if fitted, almost certainly would have been punctured. It also seems likely that had the ship been equipped with a double bottom, refloating would have been delayed substantially by the need to lighten at least another 10-15,000 tons of cargo. In METULA's case, severe weather which struck shortly after the actual refloating operation might have brought about release of the entire cargo rather than a quarter of it.

There is another aspect which must be mentioned in regard to double bottoms and salvage because it is so frequently misunderstood, as it was in the statement accompanying Governor Hammond's November letter to Admiral Siler.[10] Double bottom advocates agree about greater sinkage as just described, and then stress the salvage advantages for keeping the ship firmly grounded. What they neglect to say is that this alternative is equally available to the single bottom ships. It will have equal ballast capacity which can readily be flooded if desirable. But when these flooded spaces are emptied, as eventually they must be if the ship is ever to be refloated, in the double bottom case it requires complicated salvage procedures whereas in the single bottom ship one need only pump out intact tanks voluntarily flooded.

Before leaving double bottoms, I must make two other observations:

o First, as shown on pages 7 and 8 of the AIMS booklet, total ship losses following groundings produce over 60% of oil outflow from such accidents - a circumstance which double bottoms cannot possibly alter. Also, figures agreed upon at IMCO are given, stressing that the effectiveness of double bottoms in preventing rupture or initial outflow is a great deal lower than the values most usually cited by the advocates of double bottoms. In my view the IMCO figures are more broadly based and have been subject to sufficient expert review to be regarded as more reliable than the more optimistic estimates appearing later.[11]

o Second, the question of safety hazards from gas accumulation in double bottoms, described on pages 8 and 9 of the AIMS Booklet, is often discounted. In this regard I would draw your attention to the fact that recently three seni officers lost their lives on a quite new LPG ship through leakage of gas into a double bottom tank.

These issues and many others were reviewed in depth last year by an industry study group of which I was the chairman. In my view this group, despite criticism of the way in which it operated, studied all available data in a thoroughly technical and objective way, and the findings which it produced[12] are I believe reasonable.

The group's finding that positioning segregated ballast towards the sides and the bottom of a tanker offers some additional accident prevention is to me reasonable, particularly if one recalls the two-thirds of tankermen's deaths resulting from fire following collision. However, the most important finding appears at the end of the abstract:

> "Finally, the group noted that in its collective opinion the most effective measures for preventing accidental pollution and other types of major tanker accidents are those concerned with training and performance of ship's crews, and traffic and navigational improvements for ships of all types rather than further tanker design measures."

One other factor about ship design changes should be mentioned since I am not sure how aware you are of the inevitable technical compromises which must be made. This can be shown by comparing a conventional and a segregated ballast tanker in a grounding circumstance as shown in Fig. 1.* Because of the greater freeboard of the loaded segregated ballast ship with a typical cargo of crude oil, spillage from an equal volume of ruptured tanks could be three or more times as great for the segregated ship as it will be for the conventional tanker.

*To be supplied 3/3/76.

This was a trade off which had to be accepted by those supporting the segregated ballast concept for new large crude ships. But it clearly indicates that it would be a mistake to extend the concept to smaller product ships where the operational pollution benefits are marginal to non-existent. It is unfortunate that although these matters were studied in the U. S. in 1972[13] and agreed at IMCO in 1973, it is once again being suggested that segregated ballast be required for the smaller product ships where it may do little good for the environment and possibly some harm.

It should be clear from my remarks that I believe ship design measures, over and above the basic tank size regulations agreed at IMCO in 1971, can do very little to mitigate accidental pollution from groundings and collisions. I do agree with the findings of the committee last year that if a ship must have segregated ballast capacity for operational reasons, placing such capacity at the sides and toward the bottom is obviously correct. I do not agree however that the additional specifications as to amount and positioning as contained in Coast Guard's January 8th regulations will really provide any additional protection.

What then can be recommended in the way of technical features which may improve the accident situation? In addition to those measures already mentioned, I would add the following:

- Better shipboard electronic navigational equipment is available, and reasonable requirements for such equipment to be fitted on ships of all types should be made. In this regard many areas outside of the U. S. have been using a very successful system for years known as Decca with which many well found ships are already equipped. In this regard, since the U. S. seems to have elected to proceed with Loran C rather than Decca, it may be sensible to require Loran C for U. S. ships.

Additionally for the future, Omega and, perhaps someday synchronized satellite systems, should be considered. My own company has been evaluating equipment of these types for some years now, and has decided on Decca and Omega for its tankers and is now experimenting more broadly with satellites for communications.

- Doppler Sonar ground speed indicators are available and have proven extremely useful for coastal piloting and navigation, as well as for berthing of large tankers. Consideration might be given to possible future requirements of such gear for larger ships.
- Undoubtedly with innovative thinking and a reasonable amount of funding, major progress in improving shore based navigation aids used by ships of all sizes could be made. At the present, I have the impression that many navigation aid systems are really little changed from those developed in sailing ship days despite the availability of the technology needed to up-grade them. In my view priority of spending ought to be directed in this area rather than to more steel for each tanker.

One other safety feature often proposed for tankers is inert gas. Certainly, for the larger tankers using high capacity fixed tank washing machines, and recirculating the washing fluid, inert gas makes sense. Following IMCO's lead, increasing numbers of countries are requiring inert gas for new ships larger than 100,000 DWT. I think it worth noting that as with other fundamental safety features the basic research, and later the implementation were broadly adopted by conscientious ship owners well in advance of final regulatory action.

In regard to recent proposals to require inert gas for smaller tankers, I think this suggestion deserves thorough technical review before any regulatory action takes place. Certainly on the basis of accident data over the last twenty years which my company made available to Coast Guard and IMCO in 1973, there seems strong evidence that ships of a size commonly used in U. S. waters have been far less likely to have cargo tank fires or explosions. Accordingly, I believe that adding new arbitrary requirements without adequate technical review would be a mistake.

In closing, I think it should be obvious that in general I support the regulations which Coast Guard has made under the Ports & Waterways Safety Act of 1972. I also believe that the emphasis on ship design features may have obscured the attention that should have been directed at regulations for training and licensing of personnel, and in some instances for navigation equipment. Nevertheless, I think the way in which the regulations have been evolved is logical and supportable, and I look forward to this being the case in the future.

WOG/ld
3/1/76

FOOTNOTES

1. "Petroleum in the Marine Environment", National Academy of Sciences Report, 1975.

2. "Oil-in-Water Monitoring Aboard Tankers", by F. J. Berto (Oil Companies International Marine Forum), 1975.

3. "Crude Oil Washing" by R. Maybourn (International Chamber of Shipping), 1975.

4. "Tankers and the Ecology", by V. F. Keith, J. D. Porricelli, R. L. Storch, 1971.

5. "Tankship Accidents and Resulting Oil Outflows, 1969-1973", by J. C. Card, P. V. Ponce and W. D. Snider.

6. "Maneuvering in Large Tankers", by W. B. van Berlekom and T. A. Goddard, (Society of Naval Architects and Marine Engineers), 1972.

7. "Maneuvering Safety of Large Tankers: Stopping, Turning, and Speed Selection", by C. L. Crane, Jr. (Society of Naval Architects and Marine Engineers), 1973.

8. "Controlling Ships in Heavy Traffic", Mosaic, (National Science Foundation), January/February 1975, p. 2.

9. Letter from J. J. Reynolds, American Institute of Merchant Shipping, to Admiral O. W. Siler, Commandant, United States Coast Guard, re: "IMCO and Maneuvering Studies", June 3, 1974.

10. Letter from Gov. Jay S. Hammond (Alaska), to Admiral O. W. Siler, Commandant, U. S. Coast Guard, November 1975.

11. "Effectiveness of Double Bottoms in Preventing Oil Outflow from Tanker Bottom Damage Incidents" by J. R. Card, Marine Technology (Society of Naval Architects and Marine Engineers), January 1975, p. 60.

12. "Segregated Ballast Tanker Study - Ship Configuration", study group report, April 28, 1975, Appendix C of "Final Environmental Impact Statement - Regulations for Tank Vessels Engaged in the Carriage of Oil in Domestic Trade," U. S. Coast Guard, August 15, 1975.

13. "Segregated Ballast Tanker" - Study I, Parts 1 and 2, a note by the United States, Department of Transportation, U. S. Coast Guard for submission to the IMCO Subcommittee on Ship Design and Equipment, 1972.

APPENDIX

Page Reference	Item Appended
Page 1	"The Abatement of Sea Pollution by Tankers", Exxon position paper, 1973
Page 1	"The 1973 IMCO Convention: A Tanker Operator's Viewpoint", by W. O. Gray, Exxon Corporation, 1975
Page 3	"Very Large Crude Carriers (VLCC's)", Exxon background series brochure, 1975
Page 6	"Large Tanker Maneuvering", by W. O. Gray, Exxon Corporation, 1973
Page 12	"Tanker Double Bottoms, Yes or No?", booklet published by the American Institute of Merchant Shipping, 1974

ATTACHMENT 2

American Petroleum Institute
2101 L Street Northwest
Washington, D.C. 20037
202-457-7090

C. T. Sawyer
Transportation Director

June 29, 1976
Re: 6Z31

Executive Secretary
Marine Safety Council (G-CMC/81)
Room 8117
United States Coast Guard
Washington, D. C. 20590

Dear Sir:

The U. S. Coast Guard Advance Notice of Proposed Rulemaking (CGD 76-075) in the May 13, 1976 Federal Register solicited comments on a proposal to retrofit segregated ballast tanks to existing U. S. tank vessels of 70,000 dwt and over and also to existing foreign flag tank vessels, 70,000 dwt and over, that enter the navigable waters of the United States. The purpose of this letter is to present the position of the American Petroleum Institute (API) with respect to this proposed rulemaking. We should point out that our comments take into consideration all of the information presented in the Federal Register notice, in particular the paragraph entitled "Purpose" and the third and fourth paragraphs under the section entitled "Background".

API members are opposed to the proposed rulemaking for the following two major reasons:

1. The retrofit of segregated ballast will not accomplish the assumed desired objective of significantly reducing the amount of oil discharged into the navigable waters of the United States, therefore providing little, if any, benefit to the U. S. public.
2. The potentially disastrous effect upon the future of international regulations that is almost a certainty to result should the United States take unilateral action in this matter.

These major points, as well as other considerations, will be developed in subsequent paragraphs of this letter.

Because the API opposes the proposed rulemaking we recommend that it not be developed further, but rather the following course of action be pursued:

- We believe that every effort should be made to bring into force the 1969 IMCO Amendments [1] and the 1973 IMCO Convention [2] from the standpoint of implementing both in the U.S. as well as taking appropriate action to encourage other nations to do likewise.

- Before developing additional requirements related to the objectives of the 1973 Convention, we recommend evaluation of the effectiveness of the adopted procedures, which include load-on-top, shore reception facilities, in-port inspections and training of personnel as well as monitoring development of new techniques such as crude oil washing. To this end API would welcome the opportunity to participate with the U.S.C.G. on such an endeavor.

The remainder of this letter is devoted to developing the rationale behind this position and these recommendations by considering the effects that unilateral action by the U.S. will have on U.S. flag vessels trading foreign and coastwise, deepwater terminals, international regulations as well as the international adoption of retrofitting segregated ballast.

EFFECT OF UNILATERAL ACTION BY THE UNITED STATES

Foreign Flag Vessels - Viewing implementation of the proposed rulemaking from the practical viewpoint, it likely would not affect foreign flag vessels, i.e. they would not retrofit. Foreign flag vessels greater than 70,000 dwt are already affected by a severe tanker surplus situation so that rate competition between them is even more intense than in a normal market. In order to preserve their competitive position in worldwide trading, it is likely that foreign shipowners would decline to retrofit their vessels, but would instead trade them, not directly into the navigable waters of the U.S., but rather to transshipment terminals or positions for ship to ship transfer outside the United States. Foreign oil imported into the U.S. would then be oncarried in vessels necessarily less than 70,000 dwt to avoid the unnecessary costs associated with retrofitting.

Deepwater Terminals - Based on the situation outlined above for foreign flag vessels, implementation of the proposed rulemaking would seriously jeopardize the economic viability of U.S. deepwater terminals. By so doing the opportunity to take advantage of the transportation savings associated with deepwater terminals, including minimizing the need for additional shoreside facilities to handle increasing volumes of imported oil, is eliminated. The measure would assure that final arrival of imported crude in U. S. waters would be by tankers below 70,000 dwt which directionally increases the exposure risk for accidental pollution in our harbors and waterways. Further, this situation could result in additional discharge of oil to the sea over present practice because it virtually assures that much of the oil imported into the U. S. will be multi-handled by different ships, thereby requiring more ships to discharge wash water than ideally necessary.

U. S. Flag Vessels Trading Foreign - As we understand the proposed rulemaking, a U. S. flag vessel trading foreign would be required to retrofit. Because these vessels are in competition with the foreign flag vessels, which as discussed above likely would avoid the unnecessary cost of retrofitting, significant competitive disadvantages would be suffered by the U. S. flag vessels. Additionally, this disadvantage would lead quite probably to cancellation of some newbuilding projects involving subsidized vessels. Putting this into perspective, today there are approximately eighteen CDS ships that potentially would suffer these competitive disadvantages with at least three being candidates for cancellation.

U. S. Flag Vessels Trading Coastwise - The effect of requiring these vessels to retrofit would be felt most directly by the tankers moving North Slope crude oil from Alaska to the U. S. West Coast. Because of the undertaking by Alyeska participants to provide major ballast receiving and processing facilities, there would be no need for segregated ballast in this trade. Accordingly, any monies spent in this regard would be wasteful and could be utilized on more productive matters. One further point of reality that should be noted is that owners of vessels in the 70,000 dwt to say 90,000 dwt range might well elect to reclassify to 69 mdwt to avoid the expense associated with retrofitting.

International Regulations - As mentioned earlier, we believe that unilateral action by the U. S. in this regard could introduce chaos into the international regulatory mechanism that could have long term damaging impact on all international marine matters. This concept was expressed so well by Admiral W. M. Benkert and Lt. (J. g.) D. H. Williams in the March 1974 "Proceedings of the Marine Safety Council" that we have chosen to include their statement as a direct quotation.

> "If certain regulatory provisions of the (1973) Convention are found not to be fully adequate for domestic needs, then the United States may be faced with the prospect of introducing additional requirements for vessels entering U. S. ports. However, unilateral action in such an aspect as vessel construction presents certain intrinsic dangers. First, it might place the U. S. merchant marine at an economic disadvantage vis-a-vis foreign vessels operating in foreign trade. Second, it would be likely to impede ratification of the Convention by other nations. Third, unilateral action by the United States could encourage the proliferation of differing regulatory schemes unilaterally imposed by other nations. It was a central article of faith at the Conference, in abandoning inclusion of an article formally limiting unilateral action, that signatory nations would act responsibly in substantial conformance with the provisions of the Convention." (emphasis added)

The API supports this statement and encourages the U.S.C.G. to consider carefully this "agreement with other nations" in future action regarding this proposed rulemaking. The objective of uniform international regulations cannot be achieved if individual nations promulgate regulations such as this retrofit proposal. Similarly, the U.S.C.G. cannot achieve the objective of uniform Federal regulations in vessel design and operation if individual states promulgate their own regulations. Consistency would best be served if identical positions on important design and construction matters are taken on the State, Federal and International levels.

ENVIRONMENTAL AND ECONOMIC IMPACTS

Realizing the proposed rulemaking will not accomplish the desired objective, the next logical consideration then could be to examine the effect of extending the proposal to include all size ships. Such an extension clearly would result in retrofit of more vessels, but would, for example, still make the viability of U. S. deepwater terminal facilities very questionable. The rationale is the same; the VLCC's will not retrofit and continue to call at transshipment terminals. Again the environmental improvement would be only marginal. A further complication is introduced by the fact that the smaller tankers require, as a percentage of displacement, a larger requirement for segregated ballast than larger tankers. As such, a higher percentage of cargo carrying capacity would be lost resulting in greater and greater inefficiencies.

Reflecting upon the effects, as outlined above, it is important to recognize that tank vessels entering the U. S. waters are carrying crude oil destined for import into the United States. Since little or no deballasting is carried out in the U. S. waters it is very difficult to see any benefit to the U. S. public, either environmental, financial, or in the area of safety to be derived from requiring tank vessels to have segregated ballast tanks into which ballast is loaded after discharging cargo. Admittedly, deballasting would have to be performed in international waters or foreign ports and is therefore an international problem and should be addressed accordingly.

Considering the many varied effects as described above resulting in several different scenarios involving the number and identity of ships involved, the port facilities requirements, etc. it could be very misleading to estimate the cost impact. Accordingly, we have elected not to provide an estimate. However, we recognize that promulgation of the proposed rulemaking would result in significant cost increases to the consumer with some scenarios resulting in higher cost than others. These costs would be clearly inflationary and would impact directly the U. S. consumer. Moreover, environmental benefits to be derived from this proposal are, at best, conjectural and will often occur, as noted, at locations remote from U. S. shores. Directionally then, this cost-benefit relationship provides little justification for requiring that segregated ballast be retrofitted. The justification becomes even more tenuous when recognition is given to the fact that alternative, less costly methods of achieving the same, or possibly greater, environmental objectives are under active development.

EFFECT OF INTERNATIONAL ADOPTION OF RETROFITTING SEGREGATED BALLAST

The effects of implementation of retrofitting segregated ballast on an international basis are discussed in our letter dated May 11, 1976, copy attached, to Admiral O. W. Siler on the study of this subject presented by the Governments of Greece, Italy and Norway. Highlighting that letter we quote:

> Environmental Protection: API believes that a combination of measures for controlling operational pollution from crude tankers can certainly be implemented more quickly, and with additional benefit than could the retrofit proposal by itself.
>
> Economic Considerations: The three nation study indicates that the cost for retrofitting may not be significant. API believes that the cost would be substantial, that it would be borne unevenly on different parties (shipowners and con-

sumers) and it would be economically untenable for certain parties.

Energy Waste: Retrofitting will inevitably involve a considerable waste of energy due to the greater number of tankers needed to move a given quantity of oil."

SUMMARY

We believe that all concerned parties should make every effort to ensure that regulations finally promulgated to minimize pollution do, in fact, achieve the desired results since the implementation of such regulations can be very costly. Further, the adoption of effective anti-pollution measures should be uniformly undertaken, ideally on an international basis, so that the objectives are achieved. Those who meet the required anti-pollution standards should not be placed at a competitive disadvantage versus those who do not meet the standards.

The Coast Guard commentary preceding the October 14, 1975 Notice in the Federal Register recognized the desirability of attacking ship pollution problems within an international context. API believes the proposal put forward by the Coast Guard in the May 13, 1976 Federal Register implies a piecemeal approach which would be largely ineffectual and would be unfairly discriminatory against certain U. S. flag shipowners and the U. S. consumer. Furthermore, the proposal would lead to increased transportation costs without realizing the desired environmental benefits. Accordingly, API recommends that the proposed rulemaking not be further pursued.

Very truly yours,

CTSawyer

C. T. Sawyer

CC: Adm. O. W. Siler
Commandant, U. S. Coast Guard

RAdm. A. F. Fugaro

RAdm. W. M. Benkert

FOOTNOTES

[1] IMCO - Inter-Governmental Maritime Consultative Organization 1969 Amendments to The International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended (OILPOL (amended) 1954)

[2] 1973 Convention - The International Convention for the Prevention of Pollution from Ships, 1973.

American Petroleum Institute
2101 L Street Northwest
Washington, D.C. 20037
202-457-7300

Frank N. Ikard
President

May 11, 1976

Admiral O. W. Siler
Commandant G-CMC/82
U. S. Coast Guard
400 Seventh Street, S.W.
Washington, D. C. 20590

Dear Admiral Siler:

On May 14, 1976 the National Committee for the Prevention of Marine Pollution is scheduled to consider a U. S. position related to segregated ballast on existing tankers. We presume that whatever position is established will then be presented by the U. S. Delegation to the Fifth Session of IMCO's MEPC which will meet in London May 24-28. API member companies first studied the retrofitting of segregated ballast tanks 4-5 years ago and more recently during the past year when it was proposed to IMCO. We have withheld comment pending review of the official study presented by the Governments of Greece, Italy and Norway, to MEPC in March of this year. The purpose of this letter is to acquaint you and others on the National Committee with the viewpoint of our members concerned with this major proposal.

We have now been able to review the three nation study and do not feel that it adequately or objectively addresses this subject. Although in appearance the paper of the Governments of Greece, Italy and Norway suggests they have thoroughly considered and quantified the implications of a retrofit segregated ballast program, a detailed review of their paper indicates perhaps their concern is not so much directed at improving the marine environment as it is directed at alleviating the tanker surplus. Its treatment of alternative pollution avoidance measures is superficial. No comparative cost effectiveness or implementation effectiveness analyses are undertaken. Furthermore, we believe it has failed to consider many of the more substantial aspects of the segregated ballast retrofit proposal.

API feels that rather than attempting to mandate this measure now, it would be more productive for IMCO to continue to devote priority to bringing the 1969 Amendments into force. Solutions to the remaining problems needed to implement the 1973 Convention should be pursued.

The reasons for this position, which are covered in more detail later, can be grouped in the following catagories:

Environmental Protection: API believes that a combination of measures for controlling operational pollution from crude tankers can certainly be implemented more quickly, and with additional benefit than could the retrofit proposal by itself.

Economic Considerations: The three nation study indicates that the cost for retrofitting may not be significant. API believes that the cost would be substantial, that it would be borne unevenly on different parties (shipowners and consumers) and it would be economically untenable for certain parties.

Energy Waste: Retrofitting will inevitably involve a considerable waste of energy due to the greater number of tankers needed to move a given quantity of oil.

In the remainder of this letter we will provide further specifics on these points which have been addressed in only a most cursory way in the three nation study to IMCO. At this point we might note that one of the sponsoring nations has, since submission of the study, withdrawn its support although we are not aware of the reasons for this change in viewpoint.

ENVIRONMENTAL PROTECTION

API was amongst those supporting the concept of segregated ballast for new large crude tankers at the time of the 1973 IMCO Convention but only on the basis that it would be phased in under normal new ship construction programs. Earlier studies concluded that for crude tankers, even with segregated ballast a considerable amount of periodic tank washing must take place to control sediment buildup. With product tankers it was shown that frequent tank washing must be done to ensure that product quality is maintained. Thus mixing of oil and water would not be altered in segregated ballast product tanker designs. Therefore load-on-top and retention-on-board procedures must still be employed on segregated ballast ships. It should also be repeated that shipboard tests have reliably shown that operational discharges may be controlled as effectively with load-on-top as might be expected with the segregated ballast concept.

Experience in the last several years has borne out these points. There is considerable evidence in the form of measurements of retained slops at crude oil loading ports that load-on-top performance is approaching its potential aboard most ships. Accordingly, those problems that remain are believed to involve primarily those few ships whose personnel elect to disregard proper procedures and discharge standards. While segregated ballast might decrease discharges from such non-complying vessels it certainly cannot eliminate them.

During the past 3-4 years the technique of crude washing has come into use on increasing numbers of large crude tankers equipped with inert gas systems and fixed tank washing machines. Companies experienced in this technique believe that it is potentially an important pollution abatement measure for crude tankers. They believe as well that oil recovery credits from the technique make it economically attractive to both oil company and independent ship owners. It therefore represents a pollution abatement measure which is being adopted voluntarily by increasing numbers of ship owners.

Lastly the segregated ballast retrofit proposal does not adequately recognize the pollution abatement role of shore reception facilities under the 1973 Convention. Reception facilities will be needed at product tanker loading terminals, and are already being used increasingly to receive oily slops from retention-on-board procedures. At crude loading terminals in special areas reception facilities will make other solutions less important.

ECONOMIC CONSIDERATIONS

The economic data given in the three nation study appear reasonable but do not represent complete coverage of the subject. It is probably true that if one averages the eventual cost of retrofitting over all petroleum products sold in the world the unit cost increase for the retrofit step would be small. Even so, increases in investments and operating expenses in the future would amount to several billions of dollars which could be used more effectively elsewhere.

While the three nation study acknowledges that retrofitting would cause substantial problems in interpretation of existing charter parties, contracts of affreightment, etc., its authors did not provide any suggestions on how to overcome these problems. API believes the study understates the magnitude of this problem area. The burden on shipowners renegotiating contracts would appear to be overwhelming.

In addition API would like to draw attention to the following economic considerations:

-As shown in Appendix B of the three nation study, a very wide range of conversion costs for retrofitting segregated ballast is a certainty for ships of all sizes. Even assuming all conversions were to meet the specific draft considerations of the 1973 IMCO Convention, the possible range of conversion costs for ships of the same deadweight could vary by a factor of three or more because of different cubic capacities, bulkhead and piping arrangements in existing tankers. The impact of this wide range of costs is compounded by differing ages of ships having a direct effect on the remaining life in which to pay out a conversion. It can readilv be imagined that for some owners, their only alternative if faced with a retrofit mandate might be to go out of business.

-There are, of course, minimum cost variations for segregated ballast conversions. Such variations however lose greater deadweight than conversions designed tc the IMCO '73 ballast formula. Although the three nation study suggests that any retrofit mandate would have to establish uniform rules so as to prevent abuses, we cannot conceive of a way of limiting the amount of capacity which owners elect to convert for segregated ballast. Accordingly, depending on individual circumstances, determined owners could use such a mandate to artifically reduce tanker supply to suit their needs.

-Although the three nation study assumes that investments and increased operating costs from retrofitting would be absorbed by consumers, this in fact would only be possible in a balanced tanker supply environment. With the significant oversupply situation which is projected to continue well into the 1980's, shipowners have no possible hope of recovering additional investments on a cost pass through basis.

-Recognizing that retrofitting will increase the transportation costs by 15 to 20% or more as a result of both lost capacity and conversion investment, a two tier tanker market would inevitably result as long as significant numbers of nations do not require the retrofit provision. In these circumstances, a considerable degree of flexibility would be lost due to the inability of tankers to shift between trading in the "retrofit" and "non-retrofit" trades. This lack of flexibility will also provide some cost increase simply as a result of inefficiency in tanker utilization.

ENERGY WASTE

Retrofitting will inevitably involve substantial additional tankers needed to transport a given quantity of oil.

The three nation study suggests repeatedly that due to various operating efficiencies and reduced drafts of retrofitted ships there will be little or no increase either in numbers of ships or fuel consumed if retrofitting is adopted. Despite considerable detail on other aspects of retrofitting, the three nation study shows no calculations in support of this contention.

API believes a realistic estimate will show that additional bunker fuel consumption on the order of 8 to 10 million tons per year (160-200 thousand barrels per day) is inevitable at costs approaching a billion dollars a year. We feel the government should carefully evaluate whether such additional energy usage is justified considering the pollution abatement alternatives available in this instance.

SUMMARY

API believes that IMCO should continue to devote its attentions to the effective and timely implementations of a balanced range of pollution abatement measures rather than giving priority to any single measure. Working to mandate the retrofitting of segregated ballast to existing large tankers as proposed in the three nation study does not recognize the contribution of other pollution abatement measures, nor does it deal with the economic realities with which this proposal must be able to cope.

API feels it would be most productive for IMCO and its member nations to continue to press for bringing the 1969 Amendments into force, and to find the means needed to bring the 1973 Convention into force as soon as practicable.

API therefore recommends that the U. S. delegation not support the segregated ballast retrofit proposal at IMCO.

Very truly yours,

Frank N. Ikard

F. N. Ikard

Mr. Burton. Mr. Zusi?

Mr. Zusi. I have additional, supplemental comments in support of what Mr Cole has said and would like to add to our testimony some examples of some things that have been done by many of the major tanker operators—Exxon specifically here—in the form of actions that have been taken similar to those that are in the President's recommendation. These are on such things as information systems, prescreening of chartered vessels, pollution control abatement programs which are run by the company and supplement the Coast Guard's efforts in this area now. In the area of training of personnel, standards that are required before people are put in responsible positions on board and the training that goes along with that together with the proficiency checklist, such as will be covered by the 1978 IMCO training and certification convention, are supported by industry.

The point here is that we certainly support these because we feel that they are productive relative to the safe operation of tank ships particularly and have been a self-imposed restriction for our own operations.

If I may, I would like to submit a package for your information which covers these items.

Mr. Burton. Without objection, this information will be placed in the record.

[The information follows:]

NAVIGATION
AND
BRIDGE ORGANIZATION
MANUAL

JUNE 1973

411-221-1

NAVIGATION AND BRIDGE ORGANIZATION

MANUAL

JUNE 1973

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SECTION 1 - INTRODUCTION

1.1 PURPOSE OF MANUAL

The purpose of this Manual, together with the Voyage Plan and Navigational Check List (or "The Deck Log-Book and Navigation Pre-Planning") and the Standing Orders, is to assist the Master and the Deck Officers in achieving the safe and efficient navigation of their Vessel. However, nothing in this Manual or in any Regulations issued by the Company should be construed as relieving the Master or any Officer or crew member of his responsibility, as defined by law or governmental regulation, or from the exercise of sound judgement.

This Manual will be revised as often as necessary to ensure compliance and consistency with changes or additions to laws, rules and regulations.

Officers joining the Vessel must review this Manual and note all material which has a bearing upon navigation sent to the Vessel since they last reviewed the Manual.

1.2 NAVIGATION POLICY

In addition to being a part of this Manual, the following text, or an abridged version of it, should be framed and hung in the wheelhouse as a constant reminder of a primary and basic safety responsibility:

> THE SAFETY OF PERSONNEL, VESSEL AND CARGO SHOULD BE FOREMOST IN THE NAVIGATION OF COMPANY VESSELS. IN SETTING COURSE AND SPEED, AS IN ALL NAVIGATIONAL OPERATIONS, SAFETY SHOULD COME FIRST. FOR EXAMPLE, WHEN SAILING IN WATERS KNOWN TO BE DANGEROUS FOR CURRENTS, SHOALS, HEAVY TRAFFIC, OR OTHER OBSTRUCTIONS, THE COURSE SHOULD BE SET TO PROVIDE AN AMPLE MARGIN FOR SAFE NAVIGATION. SPEED AND ECONOMY, WHILE IMPORTANT, SHOULD ALWAYS BE CONSIDERED SECONDARY TO SAFETY.
>
> THE MASTER IS PRIMARILY RESPONSIBLE FOR THE SAFE NAVIGATION OF THE VESSEL HE SHOULD SEE TO IT THAT ALL COURSES ARE WELL CLEAR OF HEADLANDS AND OBSTRUCTIONS TO NAVIGATION AND THAT OPERATING PRACTICES SAFEGUARD THE VESSEL, ITS PERSONNEL, AND CARGO. HE MUST ASSURE HIMSELF THAT APPLICABLE INTERNATIONAL AND LOCAL RULES OF NAVIGATION ARE COMPLIED WITH.
>
> WHILE ULTIMATE RESPONSIBILITY FOR THE SAFE OPERATIONS RESTS WITH THE MASTER, PART OF THIS RESPONSIBILITY EXTENDS TO OFFICERS AND CREW, WHO MUST ALWAYS BE ON THE ALERT TO PREVENT ACCIDENTS TO PERSONNEL AND VESSEL. ANY CREW MEMBER OBSERVING ANY SITUATION WHICH HE FEELS MIGHT RESULT IN DAMAGE TO THE VESSEL OR CARGO, OR MIGHT ENDANGER THOSE ON BOARD, SHOULD REPORT THE CIRCUMSTANCES TO THE MATE OR ENGINEER ON WATCH, WHO SHOULD TAKE IMMEDIATE CORRECTIVE ACTION.
>
> NOTHING IN THIS POLICY OR IN ANY REGULATIONS ISSUED BY THE COMPANY SHOULD BE CONSTRUED AS RELIEVING THE MASTER OR ANY OFFICER OR CREW MEMBER OF HIS RESPONSIBILITY, AS DEFINED BY LAW OR GOVERNMENTAL REGULATION, OR FROM THE EXERCISE OF SOUND JUDGEMENT.

1.3 VOYAGE PLAN AND NAVIGATIONAL CHECK LIST (OR "THE DECK LOG-BOOK AND NAVIGATION PRE-PLANNING")

The use of the Voyage Plan and Navigational Check List which forms part of this Manual, is intended as a practical and usable navigational procedural system with emphasis on a preplanning approach to the Vessel's intended routes covering the entire voyage from start of passage to end of passage. It incorporates a checking procedure to guard against one person's errors as well as ensure that positive action is taken to check the Vessel's position at frequent stipulated intervals by more than one method, especially prior to a change of course.

The accurate and conscientious completion of the Voyage Plan and Navigational Check List provides a system for monitoring the Vessel's progress, both afloat and ashore, and is to be completed as detailed in Appendix A (see pages 31-35).

1.4 STANDING ORDERS

The Standing Orders, which are listed in Appendix B, (see pages 36-39) - they are also listed on the cover of the "Voyage Plan and Navigational Check List", together with the other contents of this Manual form the basis for a tight Bridge Organization.

SECTION 2 - ORGANIZATION OF THE DECK DEPARTMENT

THE MASTER

2.1 RESPONSIBILITIES FOR THE SAFE CONDUCT OF THE VESSEL

2.1.1 The Master is responsible for the safe navigation of the Vessel. He must verify that all pertinent information has been considered in plotting the intended track of the Vessel and that the course to be steered will keep the Vessel well clear of dangers to navigation.

2.1.2 The Master is responsible for designating a qualified Officer to act as the Navigation Officer (see Section 3.1).

2.1.3 The Master must ensure that the Voyage Plan and Navigational Check List is accurately and conscientiously completed (See Section 3.3 and Appendix A.)

2.1.4 The Master must establish the Bridge Organization as set forth in Section 8 of this Manual and ensure that all are aware of their duties and responsibilities. When specifying the Watch Type 'D' (as outlined in Section 8.6), the Master shall be sure he designates which Watch Officer is to handle Radar/Collision Avoidance and which is to handle Navigation/Communications duties.

2.1.5 Within the limitations outlined in Paragraph 2.1.5 (c) below, the Master must be on the Bridge:

a. If the Vessel's track must pass in the vicinity of shoals, outlying rocks or other hazards which represent any threat to safe navigation

b. At any time he assesses conditions to present a potential threat to the Vessel or he judges the Vessel to be approaching a potentially dangerous situation such as:

In periods of restricted visibility

High traffic density

Steaming in restricted waters

Heavy weather conditions

When entering or leaving port

Shifting ship within a harbour area

Docking and undocking.

c. While the Master remains responsible at all times, it is appreciated that conditions arise whereby the Master will spend long hours on the Bridge thereby possibly reducing his alertness and efficiency. The Master should therefore preplan his presence on the Bridge and should consider the delegation of navigational conning responsibilities to a Senior Officer, as necessary to allow the Master sufficient time fcr adequate rest (see also Paragraphs 2.5).

2.1.6 The Master must see to it that the Vessel's position is fixed as often as the steaming situation requires. He must ensure that frequent double checks of the Vessel's position are made by the alternative methods available to him, thus reducing to a minimum the risk of grounding or stranding as a result of human or mechanical error. The Vessel's position must be fixed more frequently in restricted or coastal areas where potential hazards to navigation exist.

2.1.7 When the Master relieves the Watch Officer of the conn, the action must be clearly stated, and recorded on the Voyage Plan and Navigational Check List.

2.1.8 The Watch Officer must be kept informed where the Master may be contacted at any time.

2.1.9 The Master must use established sea lanes or traffic separation schemes when it is practical and safe to do so. Bearing in mind the draft of his Vessel and the application of the Rules of the Road, he shall avoid those areas prohibited to tanker traffic.

A copy of the IMCO publication "Ship's Routing and Traffic Separation Schemes" is on board. It contains location, descriptive terms, definition and general principles of traffic separation and routeing.

Information on new traffic separation schemes or revisions of existing schemes are published in Notices to Mariners. These changes or additions shall immediately be entered in the IMCO publication and plotted on the appropriate chart. Revised pages to the IMCO publication will be sent to the Vessel from time to time.

2.1.10 Unless prudent seamanship, hazards to navigation or applicable rules or regulations require otherwise, the Vessel must always keep to the starboard side in channels, rivers and bends.

2.1.11 Time/distance saving is secondary to safe navigation. The following are some of the factors (repeated in Section 2.2 of Appendix A) which must always be taken into consideration when planning routes:

Depth of water and draft of Vessel;

Availability of navigation aids (lighthouses, buoys, beacons, radar targets, Decca, etc.), with particular reference to cross-checking fixes and positions by more than one method;

Daytime/night-time passing of danger points;

Degree of accuracy of position fixing that can be expected in critical areas or landfalls;

IMCO Routes;

Weather, particularly in respect to areas with a record of low visibility;

Traffic, especially at main navigation/traffic focal points;

Possibility of engine/steering-gear breakdown;

Navigation equipment reliability;

Currents and Tides;

Advice and recommendations given in Sailing Directions.

2.2 VESSEL'S SPEED

The Master must comply with the Navigation Policy, which places the safety of the Vessel before consideration of speed or economy of operation.

2.3 WATCHSTANDING PROFICIENCY

The Master must test the professional competency of the Watch Officers from time to time to insure that they are skilled in use and application in each of the following areas. Any deficiencies must be remedied promptly through training.

2.3.1 Radar operation and plotting.

2.3.2 Rules of the Road.

2.3.3 Use of all navigation and bridge equipment aboard the Vessel.

2.3.4 The particular duties an Officer may be assigned under the different watch conditions outlined in Section 8 of this Manual.

2.4 PILOTAGE WATERS

See also Paragraphs 6.3 on pages 18-20.

2.4.1 The Master must employ a Pilot when this is required by regulations (compulsory Pilotage) or when the safe navigation of the Vessel so requires. The presence of a Pilot aboard does not relieve the Master of his responsibility for the safety of his Vessel. The Master must continue to monitor the safe navigation of the Vessel including position fixing, course, speed, soundings and compliance with the applicable Rules of the Road. He must counsel the Pilot at any time he judges the Pilot to be in error.

2.4.2 If the Master has any doubt of a Pilot's competence or his capability for the type and size of the Vessel in the waters to be navigated, he must take action to obtain a competent Pilot. If this is not practical, the Master must take extreme precautions to verify the Pilot's actions.

2.4.3 With a Pilot or the Master conning in restricted waters, the Master must ensure that the Vessel's speed is regulated in time to prevent wave damage to shore areas or when passing tows or small craft and is in compliance with laws or regulations.

2.4.4 When, in the Master's judgement, compliance with the Pilot's instructions or lack thereof would jeopardise the safety of the Vessel and the Pilot fails to act on the Master's counsel, it is the Master's responsibility to countermand the Pilot and to take necessary corrective action. Appropriate log book entries must be made.

2.5 TRAINING

2.5.1 The Master must train his Officers to where, in his judgement, they can be trusted to bear their share of the responsibility for safely navigating the Vessel. As part of the training, he must delegate authority for various assignments. However, he must be certain that each Officer understands and recognises situations that exceed his authority and that in such instances the Master is to be advised promptly.

2.5.2 The Master is encouraged to undertake manoeuvering exercises that he feels would be of training value and is urged to permit Deck Officers to conn the Vessel in reasonable traffic conditions while he is present on the Bridge to monitor and advise on the activity. Shiphandling exercises should be conducted from time to time with all Deck Officers present and participating. These exercises should include the "Williamson Turn" which may be expanded to include approaches and stops on a drum or other floating markers put overboard at the beginning of the exercise.

SECTION 3 - ORGANIZATION OF THE DECK DEPARTMENT

THE NAVIGATION OFFICER

3.1 The Master is responsible for designating a qualified Officer to act as the Navigation Officer and unless stated otherwise this Officer is responsible for the following:

3.1.1 Charts and navigational publications. These must be kept corrected to the latest Notices to Mariners, radio and other navigational warnings. A card correction record file must be maintained of each chart and publication.

3.1.2 The care of the magnetic compasses, maintenance and adjustment of the gyro compass and repeaters and course recorder.

3.1.3 Chronometers and clocks, checking chronometer rate and maintaining the chronometer record book. Another Officer may be assigned to wind the chronometers and take radio time checks.

3.1.4 Sounding equipment including echo-sounder, other mechanical or electrical sounding equipment and hand lead line. When opportunity permits (i.e., at anchor) the accuracy of the echo-sounder and shallow depth indicator should be checked using the hand lead line.

3.1.5 Electronic position finding equipment carried onboard such as radar, Omega, Decca Navigator, RDF and Loran. The Master must be informed of any malfunctions. A separate Radar Log Book is to be maintained onboard for recording all malfunctions, repairs, changes of parts, etc. (See also paragraph 9.6).

3.1.6 Sextants, patent logs, barographs, barometers, anomometer, thermometers, hygrometers and navigational lights.

3.1.7 Preparing weather, current, and meteorological reports.

3.2 Immediately after being informed by the Master of the next destination, the Navigation Officer must satisfy himself that all charts and navigational publications for the voyage are aboard and corrected. The Master must be informed immediately of any deficiencies.

One hour before sailing, the Navigation Officer must test the equipment for which he is responsible, as listed in paragraph 3.1, to ensure it is in proper operating condition and ready for immediate use. An entry to this effect must be made in the Deck Log Book. It is particularly important that the Master gyro has settled to a steady heading, is checked for accuracy and that the several gyro repeaters including the course recorder, RDF and radar repeaters are properly aligned with the master gyro. He must also verify that the radars are checked for proper alignment and operation.

3.3 Based-upon instructions obtained from the Master prior to departure from any port, lay-out on the appropriate charts the general course to be followed for the entire voyage but in particular for the next 48 hours and complete the appropriate columns on the "Voyage Plan" for at least the next 12 hours. Furthermore, after consultation with the Master, he shall keep the general course laid-out on the charts updated by a minimum of 48 hours and the detailed "Voyage Plan" updated by a minimum of 12 hours (also see Appendix A, pages 31-35).

SECTION 4 - ORGANIZATION OF THE DECK DEPARTMENT

ALL OFFICERS

4.1 Deck Officers are required to keep abreast of the latest information on aids to navigation and similar advice as published in Notices to Mariners and similar sources.

SECTION 5 - DUTIES OF THE WATCH OFFICER AT SEA

5.1 GENERAL RESPONSIBILITIES

5.1.1 The Officer on Watch whilst in charge of the Bridge is the Master's representative and as such is in effective control of the safety of the Vessel and all persons on board. This must be his overriding thought in the discharge of his duties which shall have his sole attention. He must exercise the utmost vigilance and ensure the other members of the Watch are equally attentive to their duties.

5.1.2 The Officer on Watch is responsible to the Master for the safe navigation of the Vessel and for the observance of the practices of good seamanship. He shall handle the Vessel at all times in strict accordance with the applicable Rules of the Road.

5.1.3 The Officer on Watch shall be thoroughly familiar with and comply in all respects with the UNDERWAY WATCH CONDITIONS and duties given in Section 8 and with all other instructions contained in this Manual. He shall promptly consult the Master if he is doubtful of the interpretation of any of the instructions contained in this Manual or if he has any doubts regarding the manner in which he is required to carry out his duties.

5.2 RELIEVING THE WATCH

It is the responsibility of the Officer relieving the watch to ensure that he has become acquainted with all the information on the steaming situation to understand it clearly and become oriented before relieving the Officer on Watch. He must, therefore, report early enough to ensure the watch is relieved on time. He shall not take over the watch until his eyes have become fully accustomed to the prevailing conditions of light.

5.3 TURNING-OVER THE WATCH

5.3.1 The Officer on Watch will not turn-over the Watch to the relieving Officer until assured that he is physically capable and fully understands the conditions as set out in the Voyage Plan and Navigational Check List. If he is not assured, he must call the Master and report the circumstances to the Master.

5.3.2 The Watch is not to be relieved during a manoeuvre.

5.3.3 Before leaving the Bridge, the relieved Watch Officer must make the required entries in the Deck Log Book, Voyage Plan and Navigational Check List and on the Gyro Course Recorder Chart, and initial each for the period of his watch.

5.3.4 After turning-over the watch at 2000 hours, 2400 hours, and 0400 hours, the relieved Watch Officer is to make a tour of inspection of the Vessel's accommodation and report back to the relieving Watch Officer.

5.4 COURSE CHANGES

5.4.1 The Officer on Watch must inform the Master of all course changes, or of his intention to change course as early as practicable or as directed by the Master's orders contained in the Voyage Plan and Navigational Check List. However, circumstances may arise where the Officer on Watch should act before he informs the Master. These include:

a. As required to ensure the safety of the Vessel and its personnel.

b. Emergencies when the Master is absent from the Bridge.

c. To avoid traffic in compliance with the Rules of the Road. (see also Standing Order 3 in Appendix B, page 36).

5.4.2 The Officer on Watch must evaluate every meeting or overtaking situation at sea in terms of the applicable Rule or Rules and on this basis determine what action he is required to take. When indicated by the Rules of the Road, he must take early and decisive action to avoid a close quarters situation. A closest point of approach (CPA) of no less than 2 miles must be maintained when it is reasonable and practical to do so.

5.5 HEAVY WEATHER

The Officer on Watch must be alert to changes in weather or sea state that may create a hazard to personnel, the Vessel, or equipment. In approaching heavy weather, he will have the Vessel inspected in good time to make certain that all gear and stores are secured and that weather doors and ports are tightly closed. He will alert the Master to the changing conditions, and take timely action to discontinue work in areas that could become hazardous with a change in weather or sea state conditions.

5.6 WHEN THE MASTER IS TO BE CALLED

The Officer on Watch must notify the Master immediately whenever he is in doubt about a navigational safety matter at any time the Vessel appears to be standing into danger, or in any other situation as set forth in the Standing Orders (see Appendix A, pages 36-39).

5.7 NOTIFICATIONS TO THE ENGINE ROOM

The Officer on Watch must notify the Engineer on watch as follows:

5.7.1 At least one hour before the end of sea passage.

5.7.2 When proceeding at full sea speed and it becomes apparent that changes in speed may be required due to weather or sea conditions including approaching low visibility, heavy traffic, or in an emergency situation

5.7.3 Any change in ambient temperature that would affect the operation of the deck machinery.

5.7.4 Unusual concentrations of ice, seaweed, other marine life or shallow water that might affect water intakes to the engine room.

5.7.5 When appropriate to check that the Bridge and engine room clocks are synchronised.

5.8 DANGER BEARINGS

5.8.1 When it is practical to do so, danger bearings must be used to determine the safe manoeuvring limits of the Vessel's track.

5.8.2 Points of land to be used for radar "danger bearings" must be carefully selected to ensure positive identification: clearly defined points such as beacons, isolated small islands, etc., are preferred.

5.8.3 Two fixed objects onshore often form natural "leading lines" or "ranges". The use of such leading lines is useful in making "good" the intended track. Buoys or other floating objects should not be used unless no other choice is available.

5.9 MANUAL/AUTOMATIC STEERING

5.9.1 The steering mode will be changed-over to manual steering in the following situations:

a) whenever the Master's instructions in the Voyage Plan and Navigational Check List specify manual steering,

b) whenever the modified steaming watches B, C or D are set,

c) at all planned navigation alterations of course,

d) for all traffic avoidance manoeuvres,

e) whenever the Vessel's draft is more than 3/5ths the depth of water,

f) for any emergency situation.

5.9.2 Except in a sudden emergency situation, manual steering will not be done by the Officer on Watch at any time.

5.9.3 All Deck Officers must be thoroughly familiar with the operation of the steering systems on the Vessel and in particular with the methods of changing-over the steering mode.

5.9.4 All changing-over of the steering mode must be performed by the Officer on Watch. The unlicensed personnel employed as helmsman must never be allowed to change-over, or interfere with, the steering mode controls.

5.9.5 Whenever the Vessel is being steered by an automatic steering system the Officer(s) on Watch must always be aware of the possibility of sudden failure of the system and allow for this accordingly. The "off course alarm" unit must always be activated in order to give warning of any failure of the automatic steering system.

5.10 VERIFICATION OF POSITION FIXES

Weather permitting, the Officers on Watch must establish the Vessel's position by morning and evening celestial observations and by sun lines of position during the day when land is not in sight. Celestial or sun positions must be checked against Loran, Decca, RDF, echo soundings or dead reckoning positions when possible.

5.11 ENTRIES IN THE DECK LOG BOOK

All of the information required by the format of the Deck Log Book must be entered during every watch. Additional information required to be entered includes, but is not limited to, the following:

5.11.1 Navigational data, such as bearings, time and distance off lights or other navigational aids, time and position of celestial fixes or positions obtained by Decca, Loran, or other means.

5.11.2 Courses steered, gyro and magnetic, together with the errors on gyro and magnetic compasses.

5.11.3 All alterations and adjustments of course made in the navigation of the Vessel, together with the position and log reading at the time.

5.11.4 The time at which the normal steaming watch A is changed to the modified steaming watch types B, C or D, and the time at which the Bridge Organization reverts to the normal steaming watch type A.

5.11.5 Any unusual circumstances, situations or events that occurred during the watch.

5.11.6 ERASURES MUST NEVER BE MADE IN THE DECK LOG BOOK, IN THE BELLBOOK, OR ON THE COURSE RECORDER CHART. IF AN ERROR IS MADE, A THIN LINE MUST BE DRAWN THROUGH THE ERROR SUCH THAT IT REMAINS LEGIBLE. THE CORRECT ENTRY SHOULD BE WRITTEN ABOVE OR BELOW THE ERROR AND THE CHANGE INITIALLED BY THE OFFICER MAKING THE CORRECTION.

5.12 ENTRIES IN THE BELLBOOK

Except on Vessels equipped with automatic engine order systems, orders to the engine room by the Bridge telegraph must be recorded in a Bridge Bellbook. Entries should include:

5.12.1 Reason for engine order when at sea under unusual circumstances such as "low visibility" or "heavy traffic", "arriving or departing harbour or port", "anchoring", etc. The Officer operating the engine telegraph shall initial the entries at the completion of the manoeuvres or at the end of his watch.

5.12.2 When manoeuvring in rivers, channels, within harbours or similar restricted areas, Bellbook entries shall include information of navigational or liability significance such as time abeam of navigational aids, "approaching drawbridge", "approaching dredge", or similar floating equipment, passing "yacht harbour" or "marina".

The above data, date and voyage number must be entered on finished automatic engine order tapes on Vessels equipped with automatic engine order systems.

5.13 ENTRIES ON THE COURSE RECORDER ROLL

The Officer on Watch must enter and initial the following information on the course recorder roll.

5.13.1 The date immediately after 0000 hours including verification that time, course, and quadrant setting was correct.

5.13.2 The position at noon each day.

5.13.3 Any significant departures from the Vessel's course as set by the Master and/or course changes made in reduced visibility to avoid other vessels or when faced with emergency conditions.

5.14 MASTER OR PILOT CONNING

5.14.1 Deck Officers on the Bridge must advise the Master or, in his absence, the Pilot of anything which they feel will assist the Master or Pilot in any given situation.

5.14.2 Watch Officers must fully understand the duties of the various steaming watches as described in Paragraphs 8.3/8.4/8.5/8.6 so as to carry them out without confusion.

SECTION 6 - ENTERING OR LEAVING PORT

6.1 PREPARATIONS

6.1.1 As an aid to the Master in planning the entry into port, a check list of 44 items to be considered (which may not be fully inclusive) is given in Appendix C, pages 40-42, of this Manual.

6.1.2 Before arrival at each port or in other areas where navigation is restricted due to channel width or depth, the Master and all Deck Officers must familiarise themselves with detailed information for the port or area including sailing directions, current, tides, etc.

6.1.3 Sufficient time, normally one hour, must be given to the engine room before getting underway or the completion of the sea passage. The engine room must be advised of the exact time of commencement or completion of the sea passage.

6.1.4 Department Heads must be notified in time to make the necessary preparations when the Vessel is about to get underway or when about to enter port.

6.1.5 The Master must ensure that there is sufficient water depth at the proposed berth so that the Vessel can safely lie afloat during her stay.

6.1.6 Weather permitting, preparations for clearing the anchors, docking, loading, or discharging must be made in advance of arrival at the terminal.

6.2 ESTABLISHING THE WATCH

The Master will set appropriate Watch Conditions in accordance with Section 8 of this Manual.

6.2.1 A licensed Deck Officer will stand by the anchors at any time the Master deems this necessary. When underway in port, in channels, or similarly restricted areas, the anchors must be ready for instant use.

6.2.2 During mooring and unmooring operations, the Officers in charge at the forward and after mooring stations will take their orders from the Master or as relayed from the Master.

6.3 PILOT/MOORING MASTER

See also paragraphs 2.4.1-4, page 8-9.

The Master is the ultimate authority on the Vessel and in the final analysis will be held responsible for the safe navigation of the Vessel.

A very sensitive matter is the means of judging a local Pilot or Mooring Master's competence and the decision to countermand his instructions if these are, in the Master's judgement, leading the Vessel into danger.

To assist the Master in this environment, the following should be recognised:

6.3.1. The Standing Orders (see Appendix B) which are also contained on the Voyage Plan and Navigational Check List, applicable to open-sea navigation, remain valid in pilotage waters. The appropriate Officer, as per the watch conditions specified in Section 8, shall:

a. operate the engine room telegraph or bridge/engine room communications.

b. repeat helm orders and check their execution.

c. insure that one radar is used for navigation purposes and where fitted that the second radar is used on short range.

d. continuously check position and courses steered. Whenever possible, the speed indicator such as the SAL-log should remain in use. The speed of the Vessel over the ground must be carefully checked before dropping the anchor.

6.3.2 Normally, the Master's knowledge of the Vessel's characteristics is greater than that of the local Pilot or Mooring Master, and their knowledge of local wind, sea, tide, current, etc. conditions is greater than that of the Master; consequently the Master must:

a. acquaint himself, prior to arrival at a port and prior to picking up the Pilot, with local conditions to the extent they are available in the nautical publications and charts on the Vessel and with respect to condition prevailing at the time, from local weather reports and forecasts

b. discuss the Vessel's characteristics with the local Pilot, promptly upon his boarding, acquainting him with any unusual characteristics. (See Appendices D1 and D2 for a listing of suggested information and data which should be given to the Pilot, on pages 43-44).

c. discuss any problems of the Vessel's forthcoming passage with the Pilot and ascertain his intended course of action, preferably in written format and not just a dialogue, and have a firm understanding on the speed(s) at which the Vessel will proceed (see Appendix E for a suggested check list of items which should be reviewed by the Master and the Pilot).

d. observe the helm and engine orders given by the Pilot and determine promptly in his own mind, based upon his knowledge of the Vessel's characteristics in close waters, whether or not the desired results will be obtained

e. be prepared to call his reservations, if any, on the Pilot's actions to the Pilot's attention promptly. Diplomacy and tact in giving comments to the Pilot may in most cases be the best action to obtain the safest shiphandling service from a Pilot.

f. exert the utmost in prudence and remember always the great responsibility which rests on him for the safety of personnel, Vessel and cargo.

6.3.3 When, in the Master's judgement, compliance with the Pilot's instructions or lack thereof would jeopardise the safety of the Vessel and the Pilot fails to act on the Master's counsel, it is the Master's responsibility to countermand the Pilot and to take necessary corrective action. Appropriate log book entries must be made.

SECTION 7 - ANCHORING

7.1 PROCEDURES AND MANPOWER REQUIREMENTS

7.1.1 The letting-go and weighing of anchors must always be under the supervision of a Deck Officer and only experienced competent seamen should be assigned to control the windlass. Both anchors must be hung off with hawse pipes cleared and riding stoppers or pawls disengaged (but left down until the order to let-go is received) and the anchors in all respects ready for letting-go while the Vessel is underway within a port or its approaches. Both anchors shall be fitted with suitable anchor buoys.

7.1.2 When approaching an anchorage and during anchoring, the Officer in charge must ensure that the windlass is manned continuously for prompt response to Bridge orders to let-go an anchor. Before making a running (or flying) moor, both anchors should be walked out clear of the hawse pipes and hung off ready for immediate let-go.

After anchors have been let-go, the Officer in charge on the forecastle head must frequently indicate the scope and direction of lead of each chain to the Bridge.

7.2 ANCHORING IN ICE

This should not be attempted unless there is no alternative. Ice, particularly if there is a strong current, can cause an excessive strain on the anchor cables with possible breakage.

7.3 ANCHORED POSITION

As soon as the Vessel is brought up to her anchor(s) and is settled, the anchored position must be ascertained, marked on the chart, and entered in the Deck Log Book.

SECTION 8 - BRIDGE ORGANIZATION

8.1 UNDERWAY WATCH CONDITIONS

8.1.1 The Voyage Plan and Navigational Check List (see Appendix A) and the Standing Orders (see Appendix B), together with the other contents of this Manual form the basis for a tight Bridge Organization.

8.1.2 In addition, the following four Bridge Organizations or Watch Conditions have been established so that all engaged in navigating the Vessel can clearly understand what their duties and responsibilities are:

	BRIDGE ORGANIZATION WATCH TYPE
IN OPEN WATERS (unlimited manoeuvering room)	
With clear visibility and little or no traffic	A
" " " " high density traffic	A
With reduced visibility and little or no traffic	B
" " " " high density traffic	B
IN RESTRICTED WATERS (limited manoevering room to one side)	
With clear visibility and little or no traffic	A
" " " " high density traffic	C
With reduced visibility and little or no traffic	B
" " " " high density traffic	D
WHEN ENTERING OR LEAVING PORT	
With clear visibility and little or no traffic	C
" " " " high density traffic	C
With reduced visibility and little or no traffic	B
" " " " high density traffic	D
WHENEVER SIMULTANEOUS HIGH WORKLOAD OF NAVIGATION AND COLLISION AVOIDANCE (e.g. Dover, or Malacca/Singapore Straits, etc.)	D

8.1.3 Watch Conditions are to be set by the Master according to the actual or anticipated steaming situation. He will normally set the Watch Conditions based-upon one of the four indicated Bridge Organizations, although it is within the Master's authority to modify the Bridge Organisation as he deems necessary for the safe operation of the Vessel.

8.1.4. The Watch Condition set is to be clearly stated and recorded.

8.1.5 Each Bridge Officer must fully understand the duties he is to perform under each Watch Condition as specified in Paragraphs 8.3, 8.4, 8.5 and 8.6 and is expected to carry out those duties unless specifically told to do otherwise by the Master. When Watch Condition 'D' is set and two Officers are on the Bridge duty, the Master shall assign one Officer to Collision Avoidance duties and the other Officer to Navigation/Communications duties. The Master must ensure that each Officer has a clear understanding to which duty he has been assigned.

8.2 UNLICENSED PERSONNEL

8.2.1 Unlicensed personnel must clearly understand their assignments and duties under the Watch Condition that prevails.

8.2.2 The responsibilities of the Master and Watchkeeping Officer in supervising the unlicensed personnel assigned to Watch duties are described below:

a. HELMSMAN. The Master and Watchkeeping Officer are responsible for ensuring the Vessel is safely and efficiently steered. Only competent seamen must be assigned the duty of helmsman and the Watchkeeping Officer must ensure that on change of helmsman a proper handover of the current order is effected. (See also paragraph 5.9).

Instructions on how to change-over from automatic to manual steering and vice-versa, must be posted in a prominent position near the wheel.

Helmsmen must be trained to become conversant with the Vessel's steering peculiarities.

b. LOOKOUT. Rule 29 of the International Regulations for Preventing Collisions at Sea requires every vessel to keep a proper LOOKOUT. The Master and Watchkeeping Officer are responsible for posting a competent seaman for the duty of LOOKOUT as required by the steaming situation (see Standing Order No. 11 in Appendix B). It is the Master's responsibility to counsel his Watchkeeping Officers on the importance of issuing precise instructions to their LOOKOUTS and the establishment of simple and effective means of communication for reporting objects to the Officer on watch; also that the LOOKOUTS understand exactly their duties and are fulfilling these duties with the utmost vigilance. The LOOKOUT shall be relieved as often as conditions dictate and be stationed and clothed so as to be adequately protected from the weather.

8.3 WATCH TYPE A

Applies in conditions such as:

- in open waters with clear visibility, regardless of traffic, or
- in restricted waters with clear visibility, little or no traffic.

8.3.1 WATCH OFFICER (CONNING)

Duties per Section 5 of this Manual, having regard also to the Standing Orders and the Voyage Plan and Navigational Check List.

8.3.2 HELMSMAN/LOOKOUT

Duties per paragraph 8.2 of this Manual.

8.4 WATCH TYPE B

In situations such as:

- in open waters with reduced visibility, regardless of traffic.
- in restricted waters with reduced visibility, little or no traffic, or
- when entering or leaving port with reduced visibility, little or no traffic.

Supplementary watches and manual steering are necessary such that there are 2 licensed men on the Bridge, and a helmsman and a Lookout posted. Normally the Officer complement will be the Master and a Watch Officer, but having regard to Paragraph 2.1.5c of this Manual, it may, in special circumstances, be the Senior Deck Officer and the Watch Officer.

8.4.1 MASTER CONNING

Having regard to Paragraph 2.1.5 of this Manual, the Master is to coordinate and supervise the overall watch organization; regulate the Vessel's course, speed and supervise the safe navigation of the Vessel; and comply with the Rules of the Road and the traffic separation schemes.

8.4.2 THE WATCH OFFICER

The duties of the Watch Officer are outlined below. It is intended that primary emphasis will be placed on RADAR and COLLISION AVOIDANCE.

a. Operate the plotting radar and plot C.P.A., course and speed of all closing targets, or others as designated by the Master. Report all plotted information to the Master and be certain that the Master acknowledges it. The first priority will be given to developing maximum information on closing targets close aboard, then on more distant targets which display constant or near constant bearings.

b. Maintain a radar or other navigation plot, marking the fixes on the appropriate chart as required by the instructions and procedures contained in the Voyage Plan and Navigational Check List.

c. Operate the engine room telegraph and verify engine room acknowledgement both of the telegraph and the engine revolution indicator. Observe the speed indicator to ensure the accuracy of plotting calculations.

d. Acknowledge engine orders to the Master.

e. Verify proper execution of steering orders.

f. Coordinate bridge-to-bridge, ship-to-shore and station-to-station communications.

g. If in soundings, operate the depth recording equipment.

h. Other duties as prescribed by the Master.

8.4.3 HELMSMAN AND LOOKOUT(S)

Duties as per Paragraph 8.2 of this Manual.

8.5 WATCH TYPE C

In situations such as:

- in restricted waters with clear visibility, high density traffic, or
- when entering or leaving port with clear visibility, regardless of traffic,

supplementary watches and manual steering are necessary such that there are 2 licensed men on the Bridge and a helmsman and a Lookout posted. Normally the Officer complement will be the Master and a Watch Officer, but having regard to Paragraph 2.1.5c of this Manual, it may, in special circumstances, be the Senior Deck Officer and the Watch Officer.

8.5.1 MASTER/PILOT CONNING

Having regard to Paragraph 2.1.5 of this Manual, the Master is to coordinate and supervise the overall watch organisation; regulate the Vessel's course, speed and supervise the safe navigation of the Vessel; and comply with the Rules of the Road and the traffic separation schemes.

8.5.2 THE WATCH OFFICER

The duties of the Watch Officer are outlined below. It is intended that primary emphasis will be placed on NAVIGATION and COMMUNICATIONS.

a. Continue to navigate the Vessel as per the instructions contained in the Voyage Plan and Navigational Check List.

b. Maintain the depth recording equipment in operation and report to the Conning Officer and be certain that the Conning Officer acknowledges it.

c. Give to the Conning Officer maximum information on traffic in the vicinity, particularly on vessels which maintain constant or near constant compass bearings, or vessels which are observed to be altering course and be certain that the Conning Officer acknowledges it.

d. Operate the radar as a navigational aid and also to provide the navigational/traffic information required by the Conning Officer, who must be informed whenever ranges are changed.

e. Operate the engine room telegraph and check engine room acknowledgements. Observe the speed indicator to ensure the accuracy of plotting calculations and to ensure that the engines are properly responding to the last telegraph order.

f. Acknowledge engine orders to the Conning Officer.

g. Ensure proper execution of steering orders.

h. Coordinate bridge-to-bridge, ship-to-shore and station-to-station communications.

i. Other duties as prescribed by the Master.

8.5.3 HELMSMAN AND LOOKOUT(S)

Duties per Paragraph 8.2 of this Manual.

8.6 WATCH TYPE D

In such areas as the Dover Straits, the Malacca/Singapore Straits, and other areas involving a simultaneous high workload of navigation and collision avoidance (e.g. with reduced visibility and high density traffic in restricted waters or when entering/leaving port), there is to be manual steering and watches are to be doubled such that there are 3 licensed men on the Bridge, and a helmsman and a Lookout posted. Normally, the Officer complement will be the Master and two Deck Officers, but having regard to Paragraph 2.1.5c of this Manual, it may, in special circumstances, be the Senior Deck Officer and two other Deck Officers.

8.6.1 MASTER/PILOT CONNING

Having regard to Paragraph 2.1.5 of this Manual, the Master is to coordinate and supervise the overall watch organisation; regulate the Vessel's course, speed and supervise the safe navigation of the Vessel; and comply with the Rules of the Road and the recommended traffic separation schemes.

With this Bridge Organization the Master will specify which Watch Officer is to perform Radar/Collision Avoidance duty and which is to handle Navigation/Communications duties.

8.6.2 ONE OFFICER is to be primarily concerned with RADAR/COLLISION AVOIDANCE duties as described below.

a. Operate the radar(s) and plot C.P.A., course and speed of all closing targets, or others designated by the Conning Officer. Report all plotted information and when appropriate any changes in the radar(s) range, to the Conning Officer and be certain he acknowledges it. The first priority will be given to developing maximum information on closing targets aboard, then on more distant targets which display constant or near constant bearings.

b. Other duties as prescribed by the Master.

8.6.3 THE OTHER OFFICER is to be primarily concerned with NAVIGATION and COMMUNICATIONS duties as described below:

a. Continue to navigate the Vessel as per the instructions contained in the Voyage Plan and Navigational Check List.

b. Constantly monitor the Vessel's progress and report all relevant navigational information to the Conning Officer, particularly in respect of any observed deviation from the planned or intended course immediately that it becomes apparent; and be certain that the Conning Officer acknowledges it.

c. Maintain the depth recording equipment in operation and report to the Conning Officer and be certain that the Conning Officer acknowledges it.

d. Acknowledge engine orders to the Conning Officer.

e. Ensure proper execution of steering orders.

f. Coordinate bridge-to-bridge, ship-to-shore and station-to-station communications.

g. Other duties as prescribed by the Master.

8.6.4 HELMSMAN AND LOOKOUT(S)

Duties per Paragraph 8.2 of this Manual.

SECTION 9 - PROPER USE OF RADAR

9.1 Radar must be regarded as an AID to and not a sole means of navigating. Its limitations regarding the tracking of other targets must be fully recognised as it can only give an "as is" picture of targets within range with some small indication of past status depending on the display persistence of the tube. Radar cannot display the future intentions of targets or, on its own, predict anything.

9.2 The accuracy limitations of radar, which can depend on several factors, must be fully understood by Watchkeeping Officers.

9.3 It is Company Policy for its Masters and Officers to have radar to use and to insist on its use but it is not intended that its use will relieve them of the responsibility for obeying the applicable Rules of the Road governing navigation wherever their Vessel may be. Strict compliance with these rules governing navigation of vessels is at all times mandatory and is unaffected by the use of radar.

9.4 The use of radar cannot be used as an excuse for a vessel to proceed at a greater speed than it would without radar. In many instances, radar may, by advance warning of hazards, dictate a slower speed than if proceeding without radar.

9.5 Watchkeeping Officers must have unlimited access to and unrestricted use of the radar. It must be checked for performance at regular intervals and in particular well-before its use is anticipated. It must always be used in the following or similar situations:

a. During periods of reduced visibility or when reduced visibility in the vicinity is known, anticipated, or predicted.

b. When making a land fall.

c. When approaching or navigating in restricted waters such as entering or leaving port.

d. In clear weather if traffic is present or can be expected.

e. At any other time when the Master or Watchkeeping Officer considers the information supplied by radar can be of assistance in the safe navigation of the vessel, such as river bends or other areas where radar may detect other vessels before they may be sighted visually.

9.6 A radar maintenance log must be maintained onboard the Vessel. Repairs to the radar as well as unusual or deteriorating performances must be entered in this log and the Deck Log Book. The Master must be advised of any radar malfunctions.

9.7 It is of special importance to recognise that the necessary high standard of proficiency in the use of radar in reduced visibility will not be achieved unless regular anti-collision plotting practice is carried-out in clear weather. The Master must ensure that all Deck Officers have regular radar plotting practice (see Paragraph 2.3.1), particularly before approaching restricted waters after a long ocean passage.

SECTION 10 - PROCEDURES IN REDUCED VISIBILITY

10.1 The Master must ensure by positive means (i.e. written Standing Orders) that all Deck Officers fully understand his detailed requirements for the action procedures to be followed on encountering reduced visibility. In determining the range of visibility that is to be classed as reduced visibility or deteriorating visibility, it should be remembered that the effective safe range of visibility will vary according to the changing circumstances and situation of the Vessel.

10.2 In formulating the necessary action procedures and determining the safe visibility limits the following points should always be considered:

a) End-on closing speeds of 40 knots are not uncommon on present-day trade routes.

b) The time lapse necessary for the engines to be brought from the full ahead to the stand-by manoeuvring condition.

c) Any temporary engine fault or engine room condition which could increase the time lapse or limit engine manoeuverability.

d) Density of traffic and traffic type and flow patterns in the area being navigated.

e) Necessity for calling-out standby unlicensed personnel and/or Officers and the time lapse before they are on the Bridge and on duty.

f) Any manoeuvering restrictions due to draft and depth of water or the presence of shoals or other navigation dangers in the area that could restrict any immediate, bold, alterations of course that may be necessary before engines can be used and speed reduced.

g) Time lapse for the radar to become fully operational.

h) Condition of radar sets.

i) The Vessel's stopping distance from full ahead.

10.3 The following guidelines are suggested for reduced visibility procedures:-

a) When the range of visibility is suspected to have deteriorated to the distance as stated by the Master, the Watch Officer shall:

Switch on both radar sets

Warn the Master

Warn the engine room

Warn standby unlicensed personnel and/or Officers

Commence radar plotting

Post the Lookout.

Note action taken in Deck Log Book.

b) When the effective safe range of visibility has reduced to the distance as stated by the Master, the Watch Officer shall:-

Ring standby engines and reduce speed.

Call the Master.

Call standby unlicensed personnel and/or Officers to duty according to the watch condition to be set.

Sound appropriate fog signals.

Change into manual steering.

c) When the effective safe range of visibility is reduced without previous indications of deteriorating visibility the Watch Officer shall:-

Ring standby engines and reduce speed.

Call the Master.

Switch on both radars

Call standby unlicensed personnel and/or Officers to bridge duty according to the watch condition to be set.

Post the Lookout.

Change into manual steering.

Sound appropriate fog signals.

Commence radar plotting.

Note action taken in Deck Log Book.

APPENDIX A

VOYAGE PLAN AND NAVIGATIONAL CHECK LIST

(OR "THE DECK LOG-BOOK AND NAVIGATION PRE-PLANNING")

The use of this Voyage Plan and Navigational Check List is intended as a practical and useable navigational procedural system with emphasis on a preplanning approach to the Vessel's intended route. It incorporates a checking procedure to guard against one person's errors as well as ensures that positive action is required to check the Vessel's position at frequent, stipulated intervals by more than one method, especially prior to a change of course.

The accurate and conscientious completion of this Voyage Plan and Navigational Check List provides a system for monitoring the Vessel's progress afloat and ashore, and is completed as follows:

1. GENERAL PROCEDURES

1.1 Prior to departure from any port, the Master issues instructions to the Navigation Officer regarding the general course to be set for the entire voyage with particular attention to the first 48 hours of the passage and the detailed course for at least the next 12 hours.

In cases where the Master has preference for laying out his own courses he must state this intention to the Navigation Officer and ensure verification. Otherwise the Navigation Officer will lay out the general course for the first 48 hour period on the appropriate charts and will complete the appropriate columns on the Voyage Plan for at least the first 12 hours commencing with the departure position. He shall subsequently, after consultation with the Master, keep the general course laid out on the charts updated by a minimum of 48 hours and the detailed route as defined by the Voyage Plan updated by a minimum of 12 hours.

1.2 Immediately prior to departure the Master shall make his requirements known by completing all appropriate columns. It is appreciated that the information required in these columns will be necessary under all circumstances and any additional requirements such as:

Manual/Automatic steering,

Modified Watch Conditions B, C or D,

Reduced Visibility Instructions,

Calling the Master,

will be entered under "Master's comments". Use the codes indicated to complete the "position fixing frequency" and "position fixing method" columns.

1.3 The Watch Officer, on taking over the watch, must first carry-out all instructions contained in Para. 2 of the Standing Orders (see Appendix B). By consulting the Voyage Plan and Navigational Check List, he must be aware of ALL of the Master's instructions.

If the Master's ETA at the alter-course (A/C) or abeam position is in his watch he must then calculate his own ETA and enter his estimated A/C time together with the estimated Log reading on the chart, "in brackets", thus distinguishing it from other times and distances. If the Vessel's position has not been verified beyond all doubt BEFORE the time the Master has specified, then he is to be called.

At A/C position he is to verify the actual sounding with the expected sounding and he shall also complete the log distance which should be compared with the distance in the Voyage Plan. The Watch Officer's comments are to include notes on such features as defective equipment, speed reductions, diversions from course, reasons for difference between ETA and Actual Time. He has also to comment when there is a substantial difference between estimated and actual sounding. Note: sounding is to mean the actual depth of water the Vessel is in.

The following guidelines are intended for a correct completion of the Voyage Plan and Navigational Check List.

2. SECTION TO BE COMPLETED BY NAVIGATION OFFICER (unless the Master has preference for laying-out his own Courses - See 1.1 - in which case the Master must complete this Section):

2.1 Departure/Alter-course/Arrival positions: to be entered in all cases as geographical positions expressed in Latitude and Longitude or, for ease of identification they can be expressed as a true bearing and accurate distance from an established navigation mark or landmark.

2.2 Guidelines for planning routes

Time/Distance saving is secondary to safe navigation. The following factors for planning routes must always be taken into consideration:

Depth of water and draft of Vessel;

Availability of navigation aids (lighthouses, buoys, beacons, radar targets, Decca, etc.), with particular reference to cross-checking fixes and positions by more than one method;

Daytime/night-time passing of danger points;

Degree of accuracy of position fixing that can be expected in critical areas or landfalls;

IMCO Routes;

Weather, particularly in respect to areas with a record of low visibility;

Traffic, especially at main navigation/traffic focal points;

Possibility of engine/steering-gear breakdown;

Navigation equipment reliability;

Currents and Tides;

Advice and recommendations given in Sailing Directions.

Special recognition must be made of routes, such as those applying to VLCC's transiting the Malacca/Singapore Straits, which the Company has promulgated.

2.3 The course and distance expressed in 360° notation and miles between the two geographical positions entered in the previous columns.

3. SECTION TO BE COMPLETED BY MASTER

3.1 Estimated speed is the estimated speed of the Vessel taking into account tides, currents, local conditions of weather etc.

3.2 Running time. In conjunction with the estimated speed, this is to be expressed in hours and decimal parts of an hour to cover the relevant distance/speed factor.

3.3 E.T.A. at next A/C position

To be expressed as the date and time of the estimated time of arrival at the next planned alteration of course position, or the estimated time of arrival abeam of an established navigation mark or landmark stipulated by the Master. In case of significant differences between ETA and Actual Time, all subsequent ETA's at A/C positions during the preplan period must be promptly amended.

3.4 Time Master to be called if position not verified

The entry in this column is the time the Master requires to be called if the position of the Vessel is not verified, beyond all doubt, before reaching the A/C position. A time must always be entered, except when the Master is already on the Bridge and has been in direct charge of the navigation since the last planned A/C or abeam position.

3.5 Position Fixing Frequency

To be expressed as the time lapse between fixes as required by the Master, depending on the proximity of the vessel to Navigational dangers.

3.6 Position Fixing Methods

To be expressed as Visual Bearings (VIS), Radar bearings and distances (RA), Decca Navigator position fixing (DN), Radio Direction Finding bearings (D/F), Soundings (SDG), Dead Reckoning positions (DR), Celestial observation (OBS), Satellite Navigation (SN), Omega (OM), or Loran position-fixing (LO).

4. SECTION TO BE COMPLETED BY THE WATCH OFFICER

When the Master is conning the Vessel this Section need not be completed providing that an accurate historical record is maintained in the Log Book.

4.1 Log Reading at A/C or Abeam Position

This is the actual log reading, taken when the Vessel alters course.

4.2 Log Distance Run

Is the distance run between two consecutive alter course/abeam positions as indicated by the Log. If the Log distance differs from the distance entered by the Navigating Officer, after allowing for any known tides or currents, extreme caution should be exercised and the Master must be informed.

4.3 Expected Sounding

Being the sounding at the planned A/C position as indicated on the chart, after making due allowance for height of tide.

4.4 Actual Sounding

Being the sounding recorded as the Vessel is altering course, i.e. the sounding as indicated on the sounding machine plus the Vessel's draft if the zero mark on the sounding machine is set at zero feet.

4.5 Actual Time of Altering Course or Arriving at Abeam Position

Being the time as noted both on the chart and in the Deck log.

4.6 Time New Course Verified

Being the time after alteration of course when the Vessel's position is verified on the new track.

5. SECTION FOR WATCH OFFICER'S COMMENTS

This column should be completed by the Watch Officer with regard to defective equipment, reasons for diversion from the planned course, any substantial difference between expected and actual soundings and anything directly affecting the Navigation of the Vessel which is not included in the Deck log, and the time of changing the Watch condition.

6. MASTER'S COMMENTS

The section incorporates the Bridge Order Book and as such should include the Master's specific instructions to the Bridge Watchkeeping Officers with regard to any circumstances envisaged for the pre-plan period of 12 hours ahead. This should include, e.g.:

> The time when steering is required to be changed from Auto to Manual steering and the time when steering may be changed from Manual to Auto,

When to change watch conditions (e.g. doubling-up),

Specific times of requiring Lookouts,

Time to call Master - additional to that entered in column two under such circumstances as bad weather, entering port, etc. The time that the Master intends to take the conn of the Vessel,

Action to be taken by the Watch Officer when visibility deteriorates, with regard to reducing speed, posting of lookouts, sounding of signals, changing to manual steering and calling Master.

7. DOCUMENT HEADING

Vessel's name, Port of Departure, intended destination, time and date of commencing sea passage, time and date of ending sea passage, should be completed.

8. COURSE CHECKED BY

Each Officer should check the charted course the Vessel is to steam during his watch before taking over the watch and should indicate that he has done so by signing in the appropriate space.

9. SAILING DRAFT

To be completed on leaving port.

10. CHANGES IN DRAFT

This should be completed as the actual draft together with the date, after any appreciable change of draft has taken place, e.g. transfer of cargo or bunkers, changing ballast, tank washing, etc.

APPENDIX B

STANDING ORDERS

1. The Watch Officer is on no account to leave the Navigating Bridge when the Vessel is under way unless properly relieved by the Master or another certified Deck Officer. A proper Watch shall be maintained by Officers when the Vessel is at anchor.

2. The Officer taking over the Watch must be sober, fully alert and when under way shall thoroughly familiarise himself as to:-

the general weather conditions and forecast;

the prevailing visibility;

the progress of the Vessel during the previous watch) by personally
)
the present geographic position of the Vessel;) checking
)
the present course and speed;) and confirming

any sea marks in sight or shortly to be so;

navigational dangers or potential dangers the Vessel is required to pass and alterations of course during his watch and including one hour thereafter;

the location of other vessels relative to the Vessel's course and speed;

active radio emergencies or warnings affecting mariners;

deck work at locations which would influence a decision to act to ensure the safety of Vessel's personnel;

the orders of the Master concerning the navigation of the Vessel which are recorded in the Voyage Plan and Navigational Check List.

Only when he is satisfied as to these points is he to accept the responsibility of taking over the Watch and not until then is the Officer being relieved permitted to leave the Bridge.

The change of watch is to be logged, noting the time that it has taken place.

The watch is NOT to be relieved during a manoeuvre.

3. The Vessel is at all times to be navigated in strict compliance with the "International Regulations for the Prevention of Collisions at Sea", and any local Regulations relating to navigation. Any necessary action, such as altering course or reducing speed, especially if the Vessel is the giving-way-vessel under such Regulations, should be positive and taken in sufficient time. Watch Officer must bear in mind the necessity of leaving other Vessels in no possible doubt as to his intentions.

4. The position of the Vessel when under way shall be frequently verified, when in sight of land, by shore bearings and, if not, by celestial observations. The positions obtained shall be checked where practicable by intelligent use of the navigational aids with which the Vessel is equipped.

The Vessel's position when at anchor shall be fixed and thereafter checked at hourly intervals. Constant vigilance is to be maintained prior, during and after change of tide. The time of swing is to be entered in the Deck Log Book.

Whenever the position of the Vessel is fixed the relative data to such a position shall be entered in the Deck Log Book and the position recorded on the charts in use, which are always to be available. Any discrepancy in the Vessel's position or speed between positions shall be brought to the immediate attention of the Master.

5. The course to steer will normally be given as a Gyro Course unless otherwise stated. A close check is to be kept on the corresponding course by Standard Compass.

The Gyro steering repeater shall be checked against the Master Gyro at the commencement of each Watch. The remaining Gyro repeaters will then be checked against the Gyro steering repeater.

A close check at frequent intervals throughout the Watch is to be made between the Standard Compass, Steering Compass (if fitted) and Gyro Steering Repeater. The Off-Course Alarm to be in use where practicable.

The error on both Gyro and Standard Compass shall be ascertained during each Watch, or if more than one course is steered then an error for each course whenever conditions permit.

6. The Watch Officer will observe the course and speed which has been approved by the Master. This should not prevent the Watch Officer from taking the most effective action which, in his judgment, may be necessary to avoid casualty to the Vessel or its personnel. The Master is to be notified as soon as possible of the circumstances and the action taken.

The course steered shall be adjusted for set and leeway to make the course laid down, and the Master kept informed. Full use is to be made of the Course Recorder for checking the course steered and the settings on the auto pilot steering control. Data in respect of the progress of the vessel is to be entered on the Course Recorder Roll. It is particularly important to record any significant departures from the vessel's course as set by the Master and/or course changes made in reduced visibility to avoid other vessels or when faced with emergency conditions.

7. Steering shall be changed from automatic to manual in accordance with watch types, B, C, and D; in fog or other conditions of reduced visibility; in high density traffic zones; when at reduced speed; when navigating close to the shore or near shallow banks; or when in shallow water. Helmsmen should be given ample opportunity for familiarizing themselves with the steering characteristics of the Vessel, conditions permitting.

8. If fog or other conditions of reduced visibility are suspected ahead or close to the Vessel on either side, the Radar(s) must be switched-on and immediate steps taken to reduce to a moderate speed such that on entering the area of reduced visibility the Vessel is capable of being navigated in strict compliance with the "International Regulations for the Prevention of Collisions at Sea". The Master shall be advised immediately of the action taken and to be called when visibility is reduced or indications that visibility is deteriorating.

When in reduced visibility, whether under way or at anchor, the appropriate sound signals are to be strictly complied with.

9. The Watch Officer must maintain a good lookout. This implies intelligent anticipation of possible danger, and taking the appropriate action in time to prevent a dangerous situation developing. Officers must realise that undue reliance on navigational aids is no substitute for the keeping of a good lookout.

10. The Master is to be advised immediately of all equipment failure such as steering gear, engine room, auto-pilot, gyro, Radar, echo sounder, Decca Navigator, Loran, whistle, etc.

The Master is to take action necessary to restore operability of the defective equipment and to notify the home office if assistance is required.

11. The Seaman employed as the LOOKOUT shall not be called-upon to perform duties other than those associated with such a position.

Lookouts are to be posted:

From sunset to sunrise.

During reduced visibility.

When entering or leaving port.

When traffic is heavy.

At other times specified by the Master.

12. A close check shall be kept on the depth of water under the keel by use of the aids provided.

13. Prior to the end of sea passage, Officers shall familiarise themselves with the requirements of the local Regulations relating to navigation contained in the applicable Sailing Directions. An aide memoir covering a "Check List of Items for Planning entry into Port" and "Vessel/Pilot Information Exchange", also a "Check List of Items to be agreed between the Master and the Pilot", are given in Appendices C, D & E of the Navigation and Bridge Organization Manual (pages 40-46).

14. At those times when the Master takes over the conn of the Vessel he shall clearly indicate this fact to the Watch Officer and record the fact in the Voyage Plan: until such time as he does so the Watch Officer is to carry-out his responsibilities as if the Master was not present. The Watch Officer is to be familiar with his duties and responsibilities when the Master is conning the Vessel.

15. The presence of a Pilot on the Bridge in an advisory capacity in no way reduces the responsibilities of the Watch Officer to continue navigating.

16. The Master is to assign 'Stations' to the Deck Officers to cover berthing and unberthing and such other movements as may occur within the port area.

17. The primary consideration in the mind of the Watch Officer must always be the safety of life and property at sea. Nothing contained in these orders shall substitute or cancel anything contained in the "International Regulations for the Prevention of Collisions at Sea" and local Regulations relating to navigation, nor shall interfere with the sound judgment of the Officer.

18. The use of the Bridge Radio telephones should be confined to the safe navigation of the Vessel, port facilities, company official business and emergencies.

19. Persons not directly concerned with the immediate navigation of the Vessel shall not be permitted on the Bridge without permission of the Master

20. These Standing Orders are to be signed by Deck Officers as having read and understood their meaning.

21. Navigating Officers are to be familiar with their duties which are laid-down for various watch conditions in Section 8 of the Navigation and Bridge Organization Manual.

22. The Master may add to these Standing Orders as is necessary.

23. Nothing in these Standing Orders shall be construed as relieving the Master or any Officer or crew member of his responsibility, as defined by law or governmental regulation, or from the exercise of sound judgment.

APPENDIX C

CHECK LIST OF ITEMS FOR PLANNING ENTRY INTO PORT (SEE PARA.6.1.6 OF MANUAL)

1. Review all available port information and Sailing Directions.
2. Select and prepare largest scale charts for port approach and pilotage waters.
3. Check that all latest Radio Navigation Warnings in area have been received.
4. Charts to be used corrected up to all latest information available to Vessel.
5. Study charted navigation aids, landfall characteristics, and check points along intended track.
6. Consider volume, type and flow of traffic most likely to be encountered.
7. Check tide and current tables. Note and post-up for information. Mark-up tide atlas.
8. Ensure Pilot Book, Light Lists, Tide Atlas/Tables are immediately available for use.
9. Obtain latest weather report. Evaluate wind and weather conditions.
10. Radio check for Pilot/tugs/berthing instructions. Establish final ETA and Pilot boarding point.
11. Study manoeuvering/navigation restrictions based on draft and depth of water.
12. Evolve detailed plan of intended manoeuvers and approach to Pilot boarding point, taking into account all foreseeable alternatives and situations.
13. Develop contingency plan for potential emergencies, e.g. engine/steering failure. Pilot relief. Study available courses to deep water or anchorage area.
14. Write-up any special instructions for Bridge Officers.
15. Set appropriate Watch condition for port approach and entry. Assign Deck Officers to harbour stations.
16. Prepare 'Vessel/Pilot' information exchange form. Consult 'Master/Pilot' check list. (See Appendices D & E).

17. Assign a Deck Officer (other than Watch Officer) to supervise Pilot boarding and escort.

18. Test and check all navigation equipment. Report results to Master.

19. Test all steering systems. Start second pump on steering gear. Report results to Master.

20. Time check course recorder. Reset if necessary.

21. Ensure manual steering engaged in sufficient time for Helmsman to settle-down before approach manoeuvering commences.

22. Ensure that Heads of departments and Engine room receive at least one hour's notice to stand-by.

23. Calculate minimum and maximum depth of water in port approaches, entry channels and at berth. Set depth alarm.

24. Check draft/trim requirements. Arrange cargo/ballast shift to correct trim/list.

25. Calculate and report to Master final arrival draft/trim taking into account salinity at arrival port.

26. Check berthing instructions for:-
    a) Anchoring/berthing on arrival
    b) Which side to, berthing.
    c) Ship or shore gangway.
    d) Size, number, manifold connections.
    e) Derricks required and S.W.L
    f) Any special requirements for number and positioning of mooring lines.
    g) Accommodation ladder required?

27. Steam/power on deck. Run and test all deck machinery.

28. Prepare mooring lines, wires and all associated mooring equipment. Check condition, and method of reeling.

29. Report to Master any defects or limitations in deck machinery or mooring equipment.

30. Prepare and check condition of pilot ladders, lifebuoy and line, heaving line. Test and check pilot hoist. Rig and test pilot ladder lighting.

31. Prepare anchor balls. Test anchor lights.

32. Clear anchors ready for letting-go. Inform bridge when anchors cleared.

33. Prepare vessel for port safety using "IOTTSG SAFETY CHECK LIST" as a guide.

34. Ensure fire fighting systems in immediate readiness state. Fire main pressurised.

35. Assign harbour stations to unlicensed personnel.

36. Check and test stores hoist/crane. Check quantity stores/spare gear to be loaded. Any special items requiring pre-planned handling. Make stores handling labour arrangements. Goods landed notes.

37. Prepare oil spill gear and dispersal equipment (Corexit) ready for immediate use.

38. Plan port security arrangements. Assign security duties. Contact agents if employing shore security personnel.

39. Test communications equipment:-
    a) Bridge VHF set
    b) Portable VHF sets
    c) Talkback systems
    d) Emergency telephones
    e) Portable loudhailers.

40. Test lights and signalling equipment:-
    a) Signal mast lights
    b) All navigation lights
    c) Aldis/morse lamps
    d) Deck lighting
    e) Steam/air whistles on electric/hydraulic

41. Prepare national flags and any International Code flags which will be required.

42. Check-on and prepare any special signals Vessel may be required to display according to local or international regulations.

43. Check & note VHF channels for various services:
    a) Pilot cutter
    b) Port control
    c) Tugs
    d) Terminal, etc.

44. Report results of communications test to Master.

APPENDIX D1

VESSEL/PILOT INFORMATION EXCHANGE

(See Para 6.3.2b of Manual)

Gross tons	Net tons	Dead weight
Draft forward	Aft	Midships
Maximum length	Breadth	

Thrusters ☐ Bow ☐ Stern ☐ None

Rate of turn indicator (Yes/No)

Maximum rudder angle

Bulbous Bow (Yes/No)

Anchor chain working lengths Port ______ Starboard ______ Stern ______

Number of mooring wires available fore ______ aft ______ maindeck ______

" " " ropes " fore ______ aft ______ maindeck ______

1. MAIN ENGINE (DIESEL/TURBINE) : Bridge control of engines (Yes/No)

a) ☐☐ Full speed ☐☐ Half ☐☐ Slow ☐☐ Dead slow
Knots Revs Knots Revs Knots Revs Knots Revs

b) Is full manoeuvring speed readily available? ______

c) What is maximum astern power (% of full ahead) ______

2. IS FOLLOWING EQUIPMENT FULLY OPERABLE?

a) Engine room telegraph, or bridge control, if fitted ______

b) Steering gear ______

c) Vessel's whistle ______

d) Radar set/s ______

e) Sounding equipment ______

f) Sal log ______

g) Gyro ______

h) Mag. compass ______

j) Decca navigator ______

k) V.H.F. and M.F. radio systems ______

l) Deck machinery ______

m) Anchors ready for use ______

n) Wind velocity indicator operability (if fitted) ______

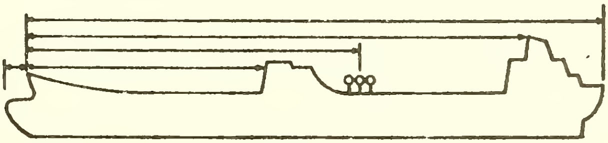
3. VESSEL'S CONDITION

a) Vessel loaded with ______

b) Vessel in ballast ______

c) Vessel is/is not gas free ______

d) Vessel is/is not inerted ______



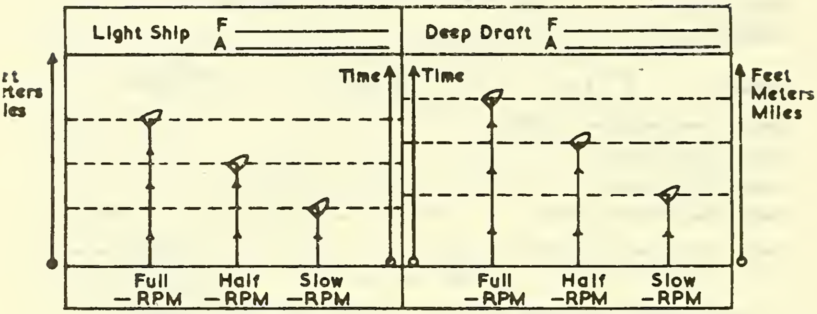
4. PILOT'S NAME

APPENDIX D2

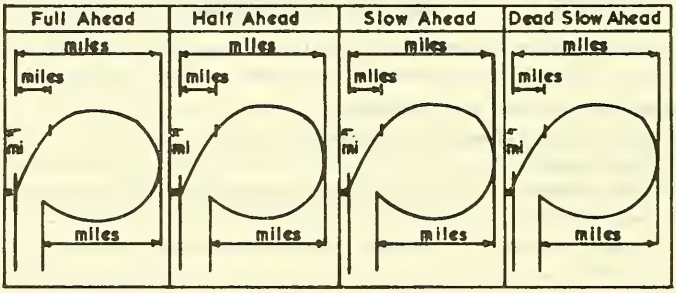
VESSEL/PILOT INFORMATION EXCHANGE

(See Para 6.3.2b of Manual)

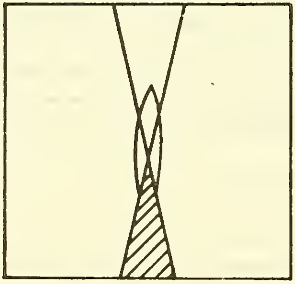
CRASH STOP DISTANCES



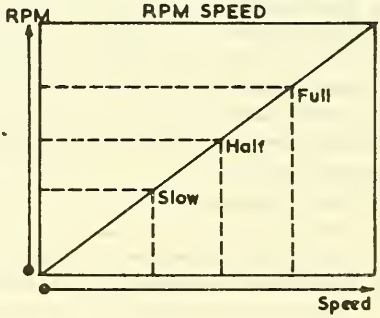
TURNING CIRCLES



VISIBILITY



RPM SPEED



APPENDIX E

CHECKLIST OF ITEMS, IN ADDITION TO THE VESSEL/PILOT INFORMATION EXCHANGE SHEETS, TO BE AGREED BETWEEN THE MASTER AND THE PILOT. (SEE PARAGRAPH 6.3.2c OF MANUAL.)

1. REACH AGREEMENT ON UNDERWAY PROCEDURES

   a. Manoeuvres for narrows, bends, turns, etc.
   b. Courses/headings, distance off danger areas, maximum speed.
   c. Restrictions: day versus night movement/berthing.
   d. Tide current conditions not acceptable.
   e. Minimum acceptable visibility at any point.
   f. Use of anchor (planned, emergency).
   g. Manoeuvres not requiring tugs.
   h. Manoeuvres requiring tugs.
   i. Number of tugs required (and when).
   j. Source of tug securing lines: ship or tug.
   k. Push/pull power of required tugs.
   l. Communications procedure between Vessel and tugs.
   m. Placement of tugs alongside.
   n. Crew standby requirements - numbers available and stations.
   o. Expected time Vessel has to arrive at berth/turning basin at high/low/slack water - average speed to this position.

2. REACH AGREEMENT ON MOORING/UNMOORING PROCEDURES

   a. Maximum acceptable wind force and direction.
   b. Unmooring procedures without tugs in event of emergency.
   c. Sequence of running out/retrieving mooring lines, wires.
   d. Mooring lines to be run out by launch and time to run lines.
   e. Provision for dock linehandlers.
   f. Determine which side to.
   g. Fire wires required.

3. NAVIGATION ADVICE TO PILOT

a. Vessel's heading, speed, r.p.m.'s (speed increasing/decreasing).

b. Vessel's pivot point.

c. Distance off/bearing nearest appropriate navigation aid or landmark.

d. ETA at next course change position; next course/heading.

e. Point out converging and close-by traffic.

f. Depth of water under the Vessel.

REV I

Date:__________________

PRE-CHARTER INSPECTION CHECK LIST

INSTRUCTIONS: Inspector should attempt to elicit as much of the following information as possible, with emphasis on plans, records, etc. as available on the ship.

Vessel Name______________________________ Motor/Steam Tank Vessel/OBO/OO

Date of Construction_____ Where Built__________________________________

Date of Reconstruction_____ Where Rebuilt______________________________

1. (a) Classification Society____

   (b) Whether changes, if so, when____________________________________

2. (a) Summer Deadweight (salt water)__________________________ tons

   (b) TPI_______________

3. Draft: Fully laden in salt water at Summer Freeboard Ft.____ In.____

4. Estimated maximum temperature can maintain cargo___________________ °F.

   (a) Do past cargo records confirm this temperature has been maintained?

5. Average service speed_________________ kts. (loaded/ballast)

6. (a) Fuel consumption/day at sea for all purposes except cargo heating and tank cleaning _____________ tons/day. (if more than one grade, list separately.

   (b) Bunker Capacity_________________

7. Number of cargo compartments__________________

8. Number of grades of cargo can be segregated with two valve separation _____________ grades.

9. Maximum rate at which vessel can load homogenous cargo _______ tons/hr.

10. (a) Crude Vessel

    Maximum rate at which vessel can:

    load two grades simultaneously __________ tons/hour
    discharge " " " __________ tons/hour

    (b) Product Vessel

    Maximum rate at which vessel can:

    load three grades simultaneously __________ tons/hour
    discharge " " " __________ tons/hour

11. (a) Distance of manifold from bow ______________ft/meters

(b) Distance of manifold from stern______________ft/meters

12. (a) Manifold reducers and valves:

Cast iron____ Steel____ Other____

(b) Number and size reducers on board__________.

(c) Type of flange (ASA or other)_______________________

13. Number of grades can load/discharge simultaneously through midship connections with two valve separation without risk of contamination: _____________ grades.

14. (a) Vessel equipped with separate ballasting system? Yes/No.

Capacity___________________

(b) Vessel equipped with segregated ballast system? Yes/No.

Capacity___________________

15. Time required to load ballast equaling 20% of summer deadweight, salt water. ______________hrs.

16. Time required to discharge ballast #15. __________ hrs.

17. Can ballast and cargo be handled simultaneously? Yes/No.

18. (a) Number of cargo pumps _____________

(b) Type and manufacturer____________________________________

19. (a) Capacity of each pump_____________________wtph

(b) Static head__________

20. (a) Number of stripping pumps_______________

(b) Type and manufacturer_____________________________________

21. (a) Capacity of each stripping pump_________________wtph

(b) Static head___________

22. Deck Machinery and Equipment

(a) General condition (i.e. appearance, steam or oil leakage)

(1) Windlass and anchors

(2) Mooring winches and mooring lines

(b) Satisfactory number and position of mooring bitts. (For transshipment operations)

(c) Type of Chocks (Should not protrude from gunnel - this causes difficulties in transshipment operations.)

(d) Safe working load of derricks in way of manifolds _______ tons.

(e) Derricks/boom equipment: Actual condition_______________

Date last tested_______________

23. Machinery spaces and related equipment:

(a) General condition and condition of equipment therein (i.e. cleanliness, ventilation, steam or oil leakage)

(1) Pumprooms
(2) Control room
(3) Boiler room (include number of boilers)
(4) M/E spaces
(5) Auxiliary spaces
(6) Steering gear

(b) Equipment not operating, or operating at non-satisfactory level (list).

(c) Last Special Survey___________. List any outstanding items. (If continuous survey, what is current status?)

(d) Other comments (include opinion of engine room log and repair logs, preventive maintenance program, etc.)

24. Hull

(a) General condition:

(1) Exterior hull
(2) Interior hull (if available)
(3) Weather decks
(4) Deck house(s)

(b) Last Special Survey_________. List any outstanding items.

25. Navigational Spaces

(a) General condition:

(1) Bridge
(2) Radio room
(3) Gyro room
(4) Chart room

(b) Equipment (indicate if available):

Automatic pilot
Bridge-to-bridge radio (VHF-FM)
Collision Avoidance System
Compass, gyro
Compass, magnetic
Course recorder
Decca Navigator
Fathometer
Loran A
Loran C
Radar(s) - 10 CM______ 3 CM______
Radio Direction Finder
RPM Indicator
RPM Indicators bridge wings
Rudder angle indicator (visible from bridge wings?)
Rudder angle indicators bridge wings (Panama Canal)
Single side band
Satellite navigation
Other (list):

(c) Equipment not operating, or operating at non-satisfactory levels (list):

(d) Other comments (include opinion of deck logs and apparent bridge discipline (if ascertainable) as relates to chart correcting, bell books, etc.)

26. Cargo Handling

(a) General Condition:

(1) Deck pipelines
(2) Manifold
(3) Cargo valves
(4) Cargo control room
(5) Heating coils (note which tanks and coil ratio)
(6) Flame screens and ullage holes
(7) PV valves
(8) Vent piping
(9) Inert gas system
(10) Tank cleaning equipment
    (a) Type__________
    (b) COW available?_____________

(b) Operating Procedures:

(1) Declaration of inspection used prior to transfer of cargo? Yes/No. Complete?_________
(2) Method of communication from manifold to shore and to cargo control or remote pump control locations
(3) Method of emergency shutdown
(4) Describe secondary cargo valve control system if primary system is automatic (i.e. hydraulically operated, etc.)

30. Comments (include opinion as to overall present condition and evaluation of vessel's ability to continue operating at present level of performance; consider age of vessel.)

31. Certificates (list dates of expiration and outstanding items, if applicable:

(1) Solas Safety Construction____________ Issuing Authority________

(2) Solas Safety Equipment_______________ Issuing Authority________

(3) Certificate from country of registry (if applicable)___________

(4) Load Line____________________Issuing Authority_________________

(5) Civil Liability Convention 1969 (Pollution Liability)__________

(6) Federal Maritime Commission Certificate of Financial Responsibility (U.S. waters only)_______________________________

SIGNATURE:________________________

(c) Pollution Controls:

- (1) Scupper plugs
- (2) Spill containment
- (3) Deck lighting
- (4) Oil record book: Complete?
- (5) Slop tank(s)_________ Capacity____________
- (6) Does vessel meet all U.S. Coast Guard requirements?___

27. Accommodation Spaces

(a) General Condition:

- (1) Quarters
- (2) Galley/storerooms
- (3) Passageways

28. Crew

(a) Officers

- (1) Nationality
- (2) Licenses held/posted
  If Liberian or Panamanian state, if a home country license also held/posted; and if Liberian with no home country license whether issued after examination.

(b) Unlicensed

- (1) Nationality

(c) Cooperation shown (indicate personnel talked to; include agents)

29. Safety (include comments on evidence of drills, evidence of boats being swung out/lowered, etc.)

(a) Lifesaving Equipment

- (1) General condition

(b) Firefighting

- (1) Type for cargo area
- (2) Deck monitors
- (3) General condition

(c) Emergency equipment

- (1) Protective clothing
- (2) Breathing apparatus
- (3) General condition

(d) General comments

POLLUTION AND SAFETY CONTROL REPRESENTATIVE CHECKLIST

VESSEL: ______________________________ DATE: ______________
PORT: ______________________________ TERM: ______________
PSCR NAME: ______________________________

POLLUTION AND SAFETY CONTROL CHECKLIST

The Berth: (obstructions, oil in water, or other unusual conditions)

____

____

Ship's Hull: (check inshore ship's side for leaks from overboard discharge valves, hull leaks, oil on ship's side, any unusual occurrence during docking)

____

____

Berthing/Mooring: (Check vessel positioning, sufficient lines/wires to hold vessel alongside)

____

____

Item	Checked (X)
Preparation for Discharge	
Is vessel completely and securely tied-up and alongside berth.	
Is Safe Gangway properly rigged.	
Cargo Pumproom Sea Suction Valves closed and sealed.	
Cargo pumproom overboard discharge valves closed and sealed.	
Engine room bilge overboard discharge valve closed and sealed. (Check any cross connected lines to bilge suction line if any valves must be closed and sealed.)	
Warning signs posted at sealed overboard discharge valves.	
All main deck scuppers and overboard drains properly plugged.	
Check over ship's sides for leaks or oil in water.	
Check if vessel is properly moored alongside, sufficient serviceable lines/wires for particular berth, terminal, weather and traffic conditions.	
Fire hoses stretched or fire guns and towers ready to use.	

Item	Checked (X)
Shore bonding cable properly grounded to clear bare metal on ship.	
Manifold oil containment unit empty. (If not fitted, are empty drip pans of adequate capacity in place?)	
Cargo and bunker manifold valves not in use closed on both port and starboard side.	
Cargo and bunker manifold flanges not in use properly blanked with bolts in all holes, on both port and starboard sides.	
Stern discharge, if fitted, valves closed.	
Stern discharge, if fitted, flange blanked with bolts in all holes.	
Shore arms/hoses in good condition.	
Before blanks are removed from arms/hoses, ensure by opening drain valve or slight loosing of blank that they are empty.	
Shore arms/hoses properly connected, rigged and supported.	
Was discharge procedure conference held with ship representative, term representative, and yourself?	
Communication set up dock/ship (walkie-talkie, etc.)	
Have dock/ship communications equipment been tested?	
Have all parties agreed on discharge and emergency procedures?	
Have you familiarized yourself with cargo pump emergency shut down system?	
Are all required weather door and ports closed?	
Are fire towing wires rigged?	
If fitted, are natural ventilation vents trimmed properly?	
Are all cargo tank openings, including ullage openings, fitted with proper flame screens?	
If vessel has inert system, are ullage ports secured?	
Check if vessel is still alongside and properly tied-up.	
Do you consider it safe to commence discharging?	

Item Checked (X)

Cargo Discharge

Vessel lined up ready to discharge.

Dock prepared to receive cargo.

Commence discharging.

Pumps started at slow speed.

Any unusual line pressure build-up.

Check for leaks at manifold connections.

Check for arm/hose leaks.

Check for deck line leak.

Check for leaks in pumproom suction and discharge lines.

Check starting tanks to ensure they are not filling.

Increase pump RPM slowly until discharge pressure or maximum R/P/M is realized.

Recheck Cargo system for leaks. After pumps are up to speed and periodically during vessel discharge.

Completion of Discharge

Ships Cargo Lines drained.
Arms/hoses drained.
Manifold Valves closed.
Arms/Hoses disconnected and blanked.

Ballasting

Manifold valves closed.
Manifold flanges blanked with bolts in all holes.
Pumps started and run up to sea.
Break sea suction seals valve open.

Completion of Ballasting

Sea suction valves closed.
Pumps shut down.

Item	Checked (X)
Bunkering	
Does vessel have adequate empty bunker overflow containers in place?	
Bunker filling flanges not in use valves closed and blanked with bolts in all holes.	
Is English speaking member of ship's staff in attendance for this operation?	
Shore hose/arm in good condition.	
Shore hose/arm properly rigged and supported.	
Do you consider it safe to commence bunkering?	
Commence bunkering.	
Checks made for leaks in shore arm/hose.	
Ship connection, ship transfer line and unused filling flanges.	
Finish bunkering.	
Connection valve closed.	
Shore arm/hose drained.	
Shore arm/hose disconnected and blanked.	

General	YES	NO
Has vessel USCG CFR #33 Letter of Compliance on board.	______	______
Is vessel in compliance?	______	______
Are cargo handling procedures adequate?	______	______
Does vessel maintain cargo handling procedures book?	______	______
Are cargo handling procedures posted?	______	______

Checks made over ships side for indications of any oil in water, and vessel secured alongside at following times:

____

____

Item	Checked (X)
Checks made on deck and cargo pump room for leaks, etc., during discharge at following times:	

Signed ______________________________

NOTE: THIS CHECK-OFF LIST TO BE USED IN CONJUNCTION WITH POLLUTION CONTROL SAFETY REPRESENTATIVE INSTRUCTIONS AND GUIDELINES.

THIS FORM TO BE RETAINED IN POLLUTION AND SAFETY CONTROL REPRESENTATIVE'S PERSONAL FILE FOR A PERIOD OF AT LEAST ONE YEAR. NOT TO BE SUBMITTED UNLESS SPECIFICALLY REQUESTED BY ETI.

POLLUTION AND SAFETY CONTROL REPRESENTATIVE
INSTRUCTIONS AND GUIDELINES

When you are assigned to a vessel by an Exxon USA Port Agent, you are employed as a Pollution and Safety Control Representative on behalf of E.T.I.

The success of the Pollution and Safety Control program depends largely on your vigilant and assiduous performance of your duties.

When you are assigned to attend a vessel by an Exxon U.S.A. Port Agent, it is recommended that you meet the ship at the earliest time possible and that you remain in attendance during the entire cargo/ballast/bunker operations. This will require that you make arrangements to have your meals aboard.

Your personal observation of and attention to, the following operations is required.

1. Berthing/Mooring of vessel.
2. Connecting of arms/hoses.
3. Start of discharge.
4. Change of grade; shipboard transfer of cargo, temporary stop and resumption of pumping.
5. Stripping of tanks and completion of discharge.
6. Start and completion of ballasting.
7. Start and completion of bunkering operation. (Shore/barge to ship transfer or shipboard transfer)

During each of the above operation, special attention should be given as outlined below:

1. Vessel must be securely tied-up and snug alongside, sufficient lines or wires to meet the requirements of the vessel, terminal, weather and traffic conditions must be utilized.

   Shore connections or cargo operations are not to commence until such time as vessel is alongside and you have satisfied yourself that vessel is properly and safely tied-up.

Although the vessel's safe mooring is the Master's responsibility, you should always satisfy yourself that the mooring lines are tight and that breast and spring lines operated on tension winches are secured with the brakes. You should also ensure that the ship provides adequate manning for observing moorings and for line tending to avoid slack lines that could result in a ship breakout and a related pollution incident.

2. Connecting of Arms/Hoses

A. All manifold valves and bleeder valves between manifold valves and blanks are closed.

B. Fixed oil containment units or drip pans must be empty, of adequate size and in position under headers to be used.

C. All headers on boths sides of manifold not being used to be blanked off with bolts in all holes.

D. Before blanks are removed from shore arms/hoses, make sure they are empty.

E. Cargo arms/hoses securely connected to ship's manifold. If not self-sealing hydraulic etc arms, new, undamaged gaskets to be used. Flange holes to be secured with a bolt in all holes.

F. Hose handling gear, lashings, cradles, etc., are of adequate capacity and in good condition.

G. All shore equipment used to have proper leads, be properly rigged, and supported.

H. Cargo tank openings including ullage openings must be equipped with proper flame screens.

I. All overboard drains or scuppers must be fitted with plugs and cemented or secured in place.

J. Adequate bunker overflow containers are in place and empty.

3. Start of Discharge

A. Observe if the vessel is properly moored alongside with no slack in lines.

B. All overboard discharge and sea suction valves in the cargo pumproom are closed and sealed. Engine room bilge overboard discharge valve and any cross connected system from bilge suction are closed and sealed.

C. Ensure terminal and vessel personnel are in full agreement on discharge procedures, emergency procedures, and ship/dock communications.

D. Check vessel line up and ensure all drop valves are closed.

E. Ensure cargo pumps are started at slow speed and RPM/pressure increased gradually.

F. During start of pumping, close attention should be given to the manifold connections and deck lines. Any sign of leaks must be eliminated before increasing pump speed.

G. When all pumps are up to maximum speed and cargo transfer proceeds normally, an overall inspection of deck areas, pumproom and waters around the vessel should be carried out.

4. Change of Grade, Shipboard Transfer of Cargo and Temporary Stop/ Resumption of Pumping.

If a change of grade is to take place, this operations should be discussed in advance with the Chief Mate and the dock attendant to ensure no misunderstandings occur. When arm/hose change is required you should again make sure these are drained before removal. Valves on vessel manifold and shoreside must be closed prior to removal of arms/hoses.

5. Stripping of Tanks and Completion of Discharge

On completion of discharge operations, arms/hoses and vessel manifold lines must be drained back to an empty ship's tank or to shore facilities before disconnecting takes place. When you are satisfied that no oil remains in the arms/hoses, the manifold valves should be closed and arm/hose flanges released with utmost caution. Should oil still remain in the arms/hoses, this must be drained out carefully to the drip pan. When arms/hoses are removed the manifolds (or reducers) must be blanked off before commencement of ballasting.

6. Start and Completion of Ballasting

Utmost caution must be exercised on start of ballast operations, and you should familiarize yourself in advance with the vessel's ballast layout and ballasting procedure. Proper line-up must be carried out before start of pumps.

UNDER NO CIRCUMSTANCES MUST SEA VALVES BE OPENED UP BEFORE THE PUMP(S) HAVE BEEN STARTED AND RUN UP TO SPEED. IF BALLASTING IS INTERRUPTED OR UPON COMPLETION OF BALLASTING SEA VALVES TO BE CLOSED BEFORE PUMPS ARE SHUT DOWN. FOR RESUMPTION OF BALLASTING, FOLLOW ORIGINAL START UP INSTRUCTIONS.

Adequate manpower (ship's crew) should be available during start of ballasting to check deck lines, ballast receiving tank(s) and waters adjacent to the overboard valves.

Vessel ballast tanks should never be topped off while a vessel is alongside the dock; and ullage of at least ten (10) feet should be allowed in each tank.

7. Start and Completion of Bunkering Operations (Shore/Barge the Ship Transfer and Shipboard Transfer)

The PSCR should request information from the Master/Chief Engineer as to any bunkering operations that are to take place during the vessel's stay alongside. Connecting and disconnecting of bunker arm/hose must be closely watched and the same precautions taken as when handling cargo arms/hoses.

During shipboard transfer of bunkers, all bunker manifolds must be blanked off with bolts in all holes.

Master's and Chief Engineer's attention should be drawn to the U.S. Coast Guard regulations requiring attendance on deck of an English speaking person during bunkering operations.

Sealing of Overboard Discharge Valves

Assistance from vessel personnel will be necessary during sealing of all overboard discharges. The Chief Mate or other deck officer should accompany you and witness the sealing of the pumproom sea suction and bilge overboard discharge valves. He should also demonstrate to you that these valves are properly closed prior to sealing.

During your visit to the engine room and when sealing the engine room bilge overboard discharge valves, an Engineer with throrough knowledge of the locations of these valves should accompany you. Engine and pump-room bilges should be inspected and if transfer of same is required while vessel is alongside you should ask to be informed prior to such transfer. Warning signs should be posted near all overboard discharges in English and language of vessel.

Transfer of Bunker, Bilge Water, Slops, Etc. From One Compartment to Another.

Whenever any type of transfer of liquid takes place, such as bunkers, or bilge water to cofferdams or slop tank, etc., the Pollution and Safety Control Officer should be made aware of the operation and should ensure that a member of the ship's crew is assigned to monitor the transfer to prevent an overflow or spillage.

General

The effectiveness of your pollution and safety control activities depends mainly on your ability, at all times, to keep yourself informed of all operations on board the vessel that could contribute to safety or pollution hazards.

You should make it a routine duty to observe every situation that could become the cause of pollution incident or other casualty and bring your observation to the attention of the vessel's master or officer on duty.

Water accumulation on deck after rainfalls should be drained overboard immediately under your supervision. You should personally see to it that the scupper is replugged and tight after such drainage.

After your inspection of a vessel, we request you to give detailed information in your report of all deficiencies you have observed. We are particularly interested in any equipment problems or operating procedures that you feel represent potential pollution problems or safety hazards.

Should any oil spill occur, you are expected to assist the vessel's personnel in taking whatever action necessary to minimize the extent of the pollution. You are also required to complete the PSCR pollution incident report.

THE LOCAL EXXON U.S.A. PORT AGENT SHOULD BE NOTIFIED AS SOON AS POSSIBLE OF ANY OIL SPILL, BY THE DOCK MAN, YOU CAN ADVISE HIM VIA SHIP SHORE COMMUNICATION SETUP.

If you are asked to sign any written statements in connection with an oil spill, we refer you to the attached guidelines issued by Exxon Company, U.S.A February 13, 1974.

Regular inspections should be made at frequent intervals to observe condition of manifold connections, cargo lines, mooring lines, pumproom and waters around the vessel. Times of inspection rounds should be recorded on your checklist.

You will be provided with a Pollution and Safety Control Representative check list. This checklist should assist in developing a sequential routine and assist in preventing human errors and ommisions. This checklist is not to be submitted, but should be retained in your personal files for a period of at least one year.

Although the Instructions and Guidelines and Checklist are quite detailed, they do not cover every possible situation. You are encouraged to use your prudent judgement in any situation or departure from the norm to achieve our objective of No Pollution Incidents or casualties.

EIC TECHNICAL CRITERIA FOR CHARTERING TANKERS

PERIOD CHARTERS

FOR VESSELS BEING CONSIDERED FOR PERIOD CHARTER, A DETAILED PRECHARTER APPRAISAL IS COMPLETED. THE PRECHARTER APPRAISAL ASSESSES:

- THE QUALITY OF THE OWNER'S/OPERATOR'S ORGANIZATION
- THE AGE AND PERFORMANCE HISTORY OF THE VESSEL BEING CONSIDERED
- THE TECHNICAL CHARACTERISTICS OF THE VESSEL

THE QUALITY OF THE OWNER'S/OPERATOR'S ORGANIZATION IS DERIVED FROM:

- PREVIOUS EXPERIENCE WITH THE OWNERS/OPERATORS
- NUMBER AND TYPE OF PERSONNEL IN THE OWNER'S/OPERATOR'S ORGANIZATION
- HISTORICAL PERFORMANCE OF OWNER'S/OPERATOR'S FLEET FROM:
  - S&T, FSD OWNER AND VESSEL FILES
  - TRADING PATTERNS AND INDICATED PERFORMANCE FROM MAJER TANKER TRACKING SYSTEM
  - TERMINAL TURNAROUND REPORTS
  - USCG POLLUTION INCIDENT RECORDS
  - LLOYDS OR TANKER ADVISORY CENTER CASUALTY RECORDS
  - CLASSIFICATION SOCIETY RECORDS
  - EXPERIENCE OF OTHER CHARTERERS

WITH REGARD TO AGE AND VESSEL PERFORMANCE HISTORY, OUR AGE CRITERIA FOR PERIOD CHARTERS IS THAT NO VESSEL SHOULD BE CHARTERED IF IT WOULD REACH 17 YEARS BEFORE THE END OF THE CHARTER PERIOD. THIS ENSURES THAT WE DO NOT HAVE A VESSEL ON CHARTER BEYOND CLASSIFICATION SOCIETY'S FOURTH SPECIAL SURVEY, AS EXPERIENCE HAS SHOWN THAT POTENTIAL RISKS MULTIPLY AT THAT POINT IN A VESSEL'S LIFE. THE PERFORMANCE HISTORY OF THE VESSEL IS DERIVED FROM SPECIFIC ANALYSIS OF DATA USED TO APPRAISE PERFORMANCE HISTORY OF THE OWNERS/OPERATORS. ADDITIONALLY, THE OWNERS MAY BE REQUESTED TO SUMMARIZE THE PERFORMANCE HISTORY OF THE VESSEL INCLUDING POLLUTION AND CASUALTY DATA.

THE TECHNICAL CHARACTERISTICS OF THE VESSEL ESTABLISH OUR MINIMUM TECHNICAL STANDARDS FOR GENERAL AREAS INCLUDING:

- DIMENSIONS INCLUDING CARGO AND BUNKER MANIFOLD ARRANGEMENTS
- CARGO PIPING ARRANGEMENTS
- CARGO PIPING CAPACITY
- SPEED
- MOORING ARRANGEMENTS
- INERT GAS INSTALLATION

IN ORDER TO ASSESS A VESSEL AGAINST THESE CRITERIA, PRECHARTER APPRAISAL FORMS FOR VLCCS, MSTS, AND SSTS ARE SUBMITTED TO OWNERS/OPERATORS. ESSENTIAL REQUIREMENTS FOR CHARTER ARE THAT A VESSEL BE IN CLASS, MEETS REQUIREMENTS OF THE FLAG STATE, HAS CERTIFICATE OF INSURANCE OR OTHER FINANCIAL SECURITY FOR CIVIL LIABILITY FOR OIL POLLUTION DAMAGE AND SATIFIES USCG TITLE 33 REGULATIONS FOR THOSE VESSELS REQUIRED TO ENTER U.S. WATERS.

FINAL ACCEPTANCE OF A VESSEL FOR PERIOD CHARTER IS FREQUENTLY CONTINGENT UPON ACTUAL PRECHARTER INSPECTION OF THE VESSEL BY A S&T, FSD PORT CAPTAIN. THE INSPECTION NORMALLY TAKES PLACE DURING A DISCHARGE OPERATION WHERE ACTIVITY IS LIKELY TO BE AT A REASONABLY HIGH LEVEL. THE INSPECTION TAKES INTO ACCOUNT:

- CONDITION OF EQUIPMENT
- OVERALL VESSEL PERFORMANCE
- CREW PERFORMANCE
- COSMETIC ITEMS

THE INSPECTION IS A MAJOR ELEMENT IN JUDGING WHETHER OR NOT A VESSEL IS LIKELY TO REPRESENT A SIGNIFICANT POLLUTION OR CASUALTY RISK. APART FROM THE PHYSICAL INSPECTION OF THE VESSEL AND ITS EQUIPMENT, THE INSPECTOR'S ASSESSMENT OF QUALITY OF ACCOMMODATIONS, FOOD AND OTHER "HOTEL" SERVICES ARE APPRAISED SINCE THEY HAVE A BEARING ON MORALE AND, THEREFORE, INFLUENCES CREW ATTITUDE TOWARD SAFETY, POLLUTION AVOIDANCE AND OPERATING EFFICIENCY.

VOYAGE OR SPOT CHARTERS

CONCERN OVER THE RISK OF A POLLUTION INCIDENT OR A MAJOR NON-POLLUTION CASUALTY IS NO LESS FOR A VOYAGE OR SPOT CHARTER. HOWEVER, BY NECESSITY, SCREENING PROCEDURES ARE LESS COMPREHENSIVE WITH GENERALLY LITTLE TIME TO PROCURE DETAILED, CURRENT INFORMATION ON THE VESSEL AND GENERALLY NO TIME TO DO AN ACTUAL PRECHARTER VESSEL INSPECTION. GIVEN THESE PRACTICAL CONSIDERATIONS, THE RISKS ARE MINIMIZED BY CONSIDERING CAREFULLY:

- QUALITY OF THE OWNER'S/OPERATOR'S ORGANIZATION
- VESSEL AGE
- PUMPING CAPACITY/PERFORMANCE

WHERE PREVIOUS EXPERIENCE OR DATA FROM OTHER SOURCES INDICATE AN OWNER/OPERATOR OR VESSEL OF QUESTIONABLE RELIABILITY, VOYAGE SPOT CHARTERS ARE DISCOURAGED UNLESS POSITIVE EVIDENCE IS AVAILABLE THAT SUCH DEFICIENCIES HAVE BEEN CORRECTED.

AGE CRITERIA FOR VOYAGE CHARTERS IS BASED UPON THE PRINCIPLE OF ELIMINATING THE OLDEST SHIPS OF VARIOUS SIZE CLASSES WHILE MAINTAINING A LARGE PERCENTAGE OF THE AVAILABLE MARKET FOR CONSIDERATION. THUS FOR VESSELS IN THE UNDER 45 KDWT CLASS, A SHIP OVER 20 YEARS OLD WOULD NOT BE CONSIDERED FOR VOYAGE CHARTER. IN THE 45-160 KDWT SIZE RANGE, THE AGE LIMIT WOULD BE 18 YEARS.

AJS:sas
1/10/77

MINIMUM TECHNICAL CRITERIA FOR PERIOD CHARTER SSTS (16 KDWT - 45 KDWT) CLASS 1 - 3

General

- Criteria for period charters is that no vessel should reach the age of 17 years before the expiry of the proposed charter period.
- Acceptability of vessels for charter is subject to acceptable performance warranties and to satisfactory operational procedures.

Manifold Data

- The center of the cargo manifold arrangements shall be located at the mid-length of the ship, or as near thereto as possible, but in no case shall it be more than 3.0 M forward or aft of the mid-length. For the purpose of this specification on the ship's length shall be taken as the length overall.
- The distance of the presentation flanges inboard from the ship's side shall be no less than 3.5 M.
- The height of cargo manifold shall be in accordance with OCIMF Article 2.3.
- The spacing of the cargo manifold as measured from center to center along the line of presentation flange shall be in accordance with Table 1 of OCIMF Article 2.4 (minimum cargo manifold spacing).
- Cargo manifold shall be in accordance with OCIMF Articles 4.1, 4.2 and 4.3.
- All cargo manifold material, reducers, valves shall be made of steel and fitted with flanges conforming preferably to B.S 1560 or ANSI B1 16.5.
- Reducers ASA 3 each 16" - 12", 16" - 10" and 16" or 10" - 8" plus 2 each 10" - 6".
- Cargo manifold to be equipped with cargo pressure gauges at both sides port and starboard.

Spill Tank and Working Platform

- All ships shall be provided with permanentaly fitted working platforms and spill tanks under the cargo and bunker manifold connections and to comply with OCIMF Articles 3.1.1, 3.1.2, 3.1.3, 3.1.4 and 3.1.5.

Bunker Connections

- A bunker connection line shall be provided, on each side of the ship, with presentation flanges 4.6 M from the ship's side and at the same height above the deck as the cargo manifold.

Cargo Handling Data

- Vessel must be able to segregate minimum of three grades with double valve segregation.
- Double valve segregation is required between ballast and cargo system.

- Vessel must be equipped with at least three centrifugal main cargo pumps.
- Stripping capacity - a minimum of 250 m^3/hr is required. Vessel must be equipped with at least two stripping pumps.
- Vessels for clean products to be coated.

Heating and Cleaning

- Vessel to be able to maintain, during voyage and entire discharge, cargo temperature of 135°F. Vessel to be equipped with Butterworth heater capable of supplying water temperature of at least 140°F.

Loading/Discharging Data

- The maximum safe loading rate in tons per hour to be at least 10% of vessel's deadweight.
- Pumping capacity - vessel to be capable of 24 hour turnaround. This will include pumping, ballasting and the normal port functions.

Speed

- All weather loaded/ballast sea speeds should be minimum 14.5 knots.

Mooring Data

- Vessel to have minimum of 16 mooring lines in good condition plus 4 wire lines for springs.

Miscellaneous

- Hose handling booms for vessels up to 30 MDWT to be 5 ton SWL specified and 10 ton SWL specified for vessels between 36 KDWT and 45 KDWT.
- No riveted vessels to be accepted for period charter.
- Vessel to meet with USCG rules and regulations Title 33 for navigational and navigable waters as may be applicable at time of delivery and throughout the entire term of charter party and have on board certificate of compliance.
- All vessels to be equipped in accordance with Canadian and Panama and Suez Canals rules and regulations.
- Vessel to be equipped with Loran C.
- Vessel to have on board certificate of insurance or other financial security in respect of civil liability for oil pollution damage (blue card).
- The use of aluminum anodes for corrosion control is prohibited.
- Overboard stripping discharge lines to be suitably blanked to prevent any overboard discharge.

VCS:sas
2/18/77

IN-PORT POLLUTION AND SAFETY CONTROL REPRESENTATIVE PROGRAM

Exxon's In-Port Pollution Control Program was instituted in Florida in 1968 following a series of oil spills which generated industry, governmental and public concern over marine pollution and environment protection. The utilization of retired Masters and officers to provide in-port, onboard attendance on foreign flag vessels on charter to Exxon thus ensuring that good pollution avoidance practices are followed, proved effective and the program was expanded to include all U.S. ports.

Today there are approximately 50 Pollution & Safety Control Representatives active in the program in the U.S., and similar onboard pollution avoidance programs are in effect in many European ports.

A P&SCR boards the vessel he is assigned to either at the anchorage, if the vessel is to be lightered, or at the dock, well before cargo operations commence. He remains in attendance on board the vessel throughout the entire time the vessel is lightering or is alongside the berth. He ensures that the vessel complies with USCG regulations concerning oil transfer and pollution avoidance. He follows prescribed guidelines and instructions, utilizing a comprehensive checklist, to ensure that throughout the cargo discharge and ballasting operations proper procedures are followed and necessary precautions are taken by vessel's officers and crew.

The guidelines and instructions require that the P&SCR:

- frequently check the area surrounding the vessel for any evidence of oil leakage
- seals engine room bilge and pumproom overboard discharge valves to avoid inadvertent operation and possible pollution
- monitors the vessel's mooring arrangement ensuring that the mooring lines are tended and maintained taut
- ensures proper connecting and disconnecting of terminal arms and hoses to the vessel and frequently inspects these connections during operation
- makes continual checks of vessel's piping and pumproom
- ensures that deck overflow scuppers are properly plugged and cemented while the vessel is alongside

In summary, the P&SCR's prime responsibility is to ensure that the vessels comply with regulatory and Exxon goals of preventing pollution and ensuring safe operation by their constant attendance on board and their constant vigilence and awareness. They are, at all times, alert for a situation or condition that could affect the safe and pollution-free operation of the vessel.

Generally, vessel owners and vessel Masters are appreciative of the attendance of the P&SCR on board, since both owner and charterer have a common goel--cleaner, safer and pollution-free operations.

AJS:sas
1/26/77

Attachment 2

ROUTE-ING PLAN AND POSITION CHECK LIST

INTRODUCTION

The primary responsibility of the Management, Masters and members of the Fleet is the safety of its personnel, its vessels and their cargo. No considerations of programming, prior instructions or convenience shall endanger this position. The national and international concern regarding accidents which result in pollution dictate that the utmost care and caution is necessary in the navigation of tankers. Studies and investigations into vessel incidents and analysis of groundings, strandings and collision incidents throughout the industry, have highlighted two main general causes that contribute to such casualties.

a) Failure to keep a good Lookout.

b) Weakness in Bridge Organisation.

FAILURE TO KEEP A GOOD LOOKOUT covers many aspects, i.e.: failure to observe changes in weather; failure to observe the movement of approaching vessels; failure to make use of all means of establishing the vessel's position such as Radar, Echo Sounder, D.F. course recorder; failure to notify the Master of changes.

WEAKNESS IN BRIDGE ORGANISATION includes such matters as issuing precise instructions for calling the Master; defining poor visibility and action to be taken; the conditions requiring the setting of double watches, e.g. thick weather, restricted navigational areas and in high traffic density; the requirement for the O.O.W. to continue navigation when the Master or Pilot is on the bridge.

The Company considers that in discharging their responsibilities it is necessary to monitor the way their vessels are being navigated. It must be emphasised that the pre-plan system does not supersede any of the existing requirements for the historical recording of the voyage in the deck log.

ROUTEING PLAN and
POSITION CHECK LIST

This incorporates the existing company Standing Orders and Bridge Order Books.

The accurate and conscientious completion of this Routeing plan and position check list will provide a system for monitoring the vessel's progress and should be completed as follows:-

Prior to departure from any port the Master shall issue instructions to the Navigation Officer regarding courses to be set for the first 48 hours of the passage. In cases where the Master has preference for laying-off all his own courses he must state this intention to the Navigating Officer and ensure verification.

The Navigation Officer will complete the appropriate columns commencing with the departure position and subsequently shall keep the plan updated, after consultation with the Master, by a minimum of 48 hours.

MASTER

Immediately prior to departure the Master shall make his requirements known by completing all red columns. It is appreciated that the information required in the red columns will be necessary under all circumstances and any additional requirements such as:- .

Manual/Automatic steering
Double watches
Calling the Master

will be entered under "Master's comments". Use the codes indicated to complete the "position fixing frequency" and "position fixing method" columns.

OFFICER OF THE WATCH

He shall, on taking over the watch, first carry-out all instructions contained in the Standing Orders Para. 2. Consulting the Routeing Plan and Position Check Sheet, he shall be aware of ALL the Master's instructions.

If the ETA at the A/C position is in his watch he shall then enter the estimated A/C time together with the estimated Log reading, on the chart "in brackets" thus distinguishing it from other times and distances. If the vessel's position has not been verified beyond all doubt BEFORE the time the Master has specified, then he is to be called.

At A/C position he shall verify the actual sounding with the expected sounding and he shall also complete the log distance which should be compared with the distance in the Routeing Plan. The Officer of Watch comments are to include notes on such features as defective equipment, speed reductions, diversions from course, reasons for difference between ETA and Actual time and estimated sounding and actual sounding. Note: Sounding is to mean the actual depth of water the vessel is in.

OFFICER OF THE WATCH IS REQUIRED TO SIGN THE STANDING ORDERS.

This form is to be completed in duplicate, the original sent to Shore Management at the end of a single sea passage, which exceeds 14 days or alternatively at the end of a complete voyage.

ROUTEING PLAN AND POSITION CHECK LIST

<table>
<tr><td colspan="4">Vessel</td><td colspan="8">From</td><td colspan="6">To</td><td>Departure</td><td></td></tr>
<tr><td colspan="4">TO BE COMPLETED BY NAVIGATING OFFICER</td><td colspan="8">TO BE COMPLETED BY MASTER</td><td colspan="6">TO BE COMPLETED BY OFFICER OF WATCH</td><td>OFFICER OF WATCH COMMENTS</td><td>MASTERS COMMENTS</td></tr>
<tr><td rowspan="2">Departure or A/C position
From
Latitude Longitude</td><td rowspan="2">A/C position
To
Latitude Longitude</td><td rowspan="2">TRUE COURSE</td><td rowspan="2">DISTANCE</td><td rowspan="2">EST. SPEED</td><td rowspan="2">RUNNING TIME</td><td colspan="2">E.T.A. AT NEXT A/C POSITION</td><td rowspan="2">TIME MASTER TO BE CALLED</td><td rowspan="2">IF POSITION OFF COURSE .... OR NOT VERIFIED, MASTER TO BE CALLED IMMEDIATELY</td><td rowspan="2">POSITION FIXING FREQUENCY</td><td rowspan="2">POSITION FIXING METHODS</td><td rowspan="2">LOG DISTANCE</td><td rowspan="2">EXPECTED MINIMUM SOUNDING</td><td rowspan="2">ACTUAL SOUNDING</td><td rowspan="2">COURSE CORRECTION COMPASS ERROR, CURRENTS, DRIFTS ETC.</td><td rowspan="2">ACTUAL TIME A/C</td><td rowspan="2">TIME NEW COURSE VERIFIED</td><td rowspan="2">i.e. Defective equipment, reasons for diversion from course, any difference between expected and actual soundings compass error, currents.</td><td rowspan="2">And additional instructio include manual or auto steering, doubling up of watches, lookouts, and calling master.</td></tr>
<tr><td>Date</td><td>Time</td></tr>
<tr><td colspan="4">GREEN</td><td colspan="7">RED</td><td>VIS
RA
DECCA
LORAN
D/F
SDG
DR
OBS</td><td colspan="6">BLUE</td><td>BLUE</td><td>RED</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

IMPORTANT - E.T.A. at A/C position MUST be entered on chart by Officer of Watch.

SAILING DRAFT

Date
"
"

CHANGES IN DRAFT

Ballast
Change
Cargo S

Course checked by ______________________ Signature O.O.W.

______________________ Signature O.O.W.

______________________ Signature O.O.W.

______________________ Signature O.O.W.

Shore Management Check ______________________ Signature

ETI TRAINING PROGRAMS

As part of its overall objective of providing safe, pollution-free, efficient marine transportation, EIC provides the officers and crews of the ETI fleet with the following training opportunities:

Shoreside Programs

- Shiphandling

  In this important area, the training provided to ETI Masters is probably as extensive as any in the world. In addition to valuable on board training in a supernumerary capacity, each ETI Master is scheduled to attend the Grenoble shiphandling program before being given command. This comprehensive five-day course consists of instruction and actual handling of scale models of tankers from 17,000 DWT to super tankers of 400,000 DWT. Masters are then scheduled to attend another week-long shiphandling program at Delft University in the Netherlands which employs modern techniques and computerized simulator equipment. Both programs enable the trainee to become thoroughly familiar with the type of vessel and the body of water he will navigate under controlled, realistically simulated conditions.

- Radar

  ETI deck officers all receive radar training in their respective countries. In cases where radar simulator facilities are currently unavailable in a particular country (e.g. Philippines) then efforts are made to schedule attendance at a suitable nearby location, such as Hong Kong in the case of Filipino officers.

- Rules of the Road (Collision Regulations)

  Each deck officer is tested at least once every two years in the Rules of the Road by their respective manning agents. In anticipation of the revised Rules of the Road being implemented in July 1977, EIC is purchasing a special programmed instruction audio-visual program on the revised rules/regulations for all vessels. Each deck officer will be required to study this program under the guidance of the Master.

- Engineering

  As a supplement to their on board career development training, ETI senior engineering officers are scheduled to attend one or more of the following courses which are conducted by various manufacturers or technical institutes:

  Sulzer Diesel Engine
  Burmeister & Wain Engine
  Bilbao Automation
  Genoa Automation

  An extensive workshop program is currently being designed to develop the skills of senior VLCC/ULCC engineering officers in the principles of energy conservation and power plant analysis. This program is scheduled for implementation in the third quarter 1977.

Additionally, Exxon is in the process of designing a sopisticated engine room simulator to provide a controlled and realistically simulated engine room environment to teach operating and emergency procedures to engineering officers. The engine room simulator is scheduled for completion and commercial operation in January 1978.

- Management

EIC also conducts a series of Tanker Management Workshops to enhance the management skills of all ETI Masters and Chief Engineers. The Workshop program integrates both technical and management subjects into the curriculum. About seventy-five percent of the time is devoted to the technical aspects of tanker management with particular stress on safety, pollution prevention and energy conservation. The balance of the time is used to discuss other important subjects such as: cost control, basic motivation theory, styles of leadership, group process. Approximately 175 Masters and Chief Engineers (75% of the fleet population) have already attended Tanker Management Workshops.

- Firefighting

ETI personnel are scheduled to attend firefighting courses in their respective countries. In order to broaden the scope of this important facet of safety training, ETI Masters and Chief Engineers are being scheduled to attend the extensive five-day firefighting course being conducted by Texas A&M.

On Board Training

Great emphasis is placed on providing extensive on board training opportunities for all ranks and ratings to ensure a high level of professionalism. These programs range in scope and structure and are in many cases are conducted by specially trained ETI personnel and are complemented by audio/visual aids or one or more shoreside programs.

Particular attention is given to training officer personnel. To facilitate this training, each new officer must complete a proficiency check-list covering the specific technical aspects of his particular rank before he can be considered for promotion to the next higher rank.

The following on board programs currently exist in the ETI fleet:

Personnel Development Training Program

This program was conceived to provide an on board curriculum to achieve the following objectives:

- provide top four officers refresher training in a wide array of deck, engine and general subjects during a month-long program conducted by specially trained ETI personnel.

- prepare top four senior officers to present the training program to other officers and petty officers as part of the on-the-job training effort.

- Operations Inspectors

  Among their many responsibilities, the Operations Inspectors conduct on board safety training exercises and evaluate the physical condition of the vessel and equipment.

- Audio-Visual Aids

  All ETI vessels are outfitted with two video player/receiver sets. In addition to serving as an entertainment medium, this equipment is also used as a training aid by the Master and his crew. The two major components of the ETI audio-visual programming are as follows:

  Pollution Prevention Training Program

  This six-part series was developed by Exxon and is shown on board under the direction of the Master or Chief Mate. This video series was based on the Pollution Prevention conferences which ETI conducted in 1973 for Chief Mates in the fleet.

  Video Safety Program

  The vessels in the ETI fleet are provided with one video safety program and specially prepared leader's guides and crew summaries each month. These audio-visual programs deal with a wide range of personal safety subjects.

Mr. BURTON. In the statement you mention that charterers should separately develop their own criteria with respect to environmental protection and safety. How would those recommendations be implemented? Are you talking about a self-policing mechanism; let you clean up your act before the Government gets too heavy into it?

Mr. COLE. I think I can speak to that, Mr. Chairman.

As you can appreciate, oil companies or tanker owners or tanker charterers, as individual organizations are enjoined effectively from reviewing with each other what could perhaps be construed as a boycott list. I believe the Coast Guard is a little bit concerned about it also —and we've been encouraging them to publish this list—I think they have a little bit of concern over that aspect, so we worded it this way for that reason. We're asking each company to look inwardly and do what it can as a company.

I think that if we can bring this type of information into the public domain, we are fully in support of it. You will find in our testimony the recommendation that each shipowner be fully identified right back to the original owner as Art McKenzie spoke about this morning. Also the cargo owner should be identified by papers that the vessel has on board. There's no reason why it couldn't even be in the ETA message that is sent in and filed by the ship's agent with the Coast Guard.

We think that openness is what we need here more than anything else.

Again, I must say that it's the little fellow who has the difficulty in sorting out the wheat from the chaff. The big companies can do all they can in their own way and deny the chartering of one or more ships.

We have a similar system at Texaco. Mr. Butterworth, I believe, has copies of our material showing the steps and questions we go through with respect to a ship before we'll charter it. It's the fellow who buys a cargo lot of fuel oil, heating oil, or crude oil, perhaps on the water in some cases, or the small refiner or public utility who may not have access to or the staff or the capability to get such information. That's why we think it should go public. We can't do it publicly but the Government through the Coast Guard can.

[The information follows:]

CHECK LIST - VOYAGE CHARTERS

Vessel ______________________ Previous Name/Names _______________

____

Owner ____

Parent Company ______________________________________

Ship Manager/Operator _______________________________

Year Built ________ Where ____________________ Year Rebuilt _________

(Vessel 15 years and older to be reviewed by Management)

Registry ____________________

License origin of officers ___________________________

If certification Liberian or Panamanian, country issuing original license ____________________

Nationality of Officers ______________________________

Nationality of Unlicensed Personnel ___________________

Classification Society ______________________ Whether changed in period of ownership. Change made ____________ to ______________.

Date of Last Special Survey __________________________

If not completed, list outstanding items: ___________________________

____

____

Certificate of Inspection issued by County of Registry:

Date Issued __________________ Expiration Date ___________

Any Outstanding Items ______________________________

____

When Last in Shipyard _______________ Reason ____________

Date Last Drydocked _________________

How long owned by present Owner ______________________________

How many vessels in Owner's fleet ____________________________

Texaco's previous experience:

With Vessel offered ____________________________________

With Owner's other vessels _______________________________

Previous Charterers:

Opinion of previous charterers - last two __________________

Experience of Broker with Ship and Owner _________________

Enrolled in TOVALOP ____________

History of grounding/stranding/collisions ~~or~~ other serious accidents OR Significant mechanical difficulties over previous 12 months:

When ____________________

Where ____________________

Circumstances ____

____

____

History of pollution incidents over previous 12 months:

When ____________________

Where ____________________

Circumstances ____

____

____

Extent of cargo loss ____

Port prohibitions resulting from pollution ____________________

____

Load Line Certificate

FMC Certificate

CLC Certificate

SOLAS Safety Equipment Certificate

SOLAS Safety Construction Certificate

Compliance with provisions of the U. S. Coast Guard Regulations for Federal Water Pollution Control Act Sections 155 and 156 of Title 33 Code of Federal Regulations as amended.

Mr. Zusi. I might add to that if I may, Mr. McKenzie made reference this morning to the basic source of his data which is Lloyd's casualty list, and also the American Bureau of Shipping, and other classification society lists. They are very appropriate sources of that sort of data but they are after-the-fact data. They refer to incidents that have occurred.

One of the more important aspects of a prechartered screening process is to find and anticipate where problems may occur with a vessel, not necessarily judge totally on history. That kind of information involves a knowledge of the owner of the vessel, what his performance has been on his other vessels as opposed to the specific vessel that you may have in mind, what his Dun and Bradstreet is, in effect, as an operator is the way you might best describe it. That kind of information is difficult to obtain although it is a factor in some of our precharter screening mechanisms prior to chartering vessels for Exxon. It's important to try and anticipate the problem rather than react to certain historical data, although that is certainly a minimum requirement.

Mr. Burton. You state in the testimony that your companies charter the bulk of the independently owned U.S.-flag tankers. About how many tankers is this?

Mr. Cole. You mean API member companies?

I can't speak precisely as to which companies charter at this time.

Mr. Burton. About what total number?

Mr. Cole. I am unable to say. However, I can mention to you that in the case of Texaco as a company we have at the current time I believe nine U.S.-flag independently owned tankers on charter, some of which are Jones Act, some of which are subsidized vessels.

Mr. Burton. How many foreign-flag tankers? What's the advantage of having a foreign-flag tanker?

Mr. Cole. I think first of all you have to bear in mind what the trade is that's required. For coastal trade here in the United States you use only Jones Act ships by law which is essentially for product distribution.

Mr. Burton. I have never understood why American corporations would charter foreign-flag ships; is there some advantage to it?

Mr. Cole. I think you've also got to bear in mind, Mr. Chairman, the history of U.S. transportation of petroleum and petroleum products. In 1970 this country was importing only 2.7 million barrels a day of oil by tanker. Last year we imported over 7½ million barrels a day. This has been a growing thing.

Mr. Burton. The fact that it grows means that you use more tankers, but is there an advantage to chartering a foreign-flag like Liberian?

Mr. Cole. There is a significant advantage in cost.

Mr. Burton. What is that due to?

Mr. Cole. The higher construction costs in this country, which is probably double what it is in a foreign shipyard—the higher operating cost, the higher wage costs. Many of these international fleets were established long before the United States ever became a significant petroleum importing entity. These are ships that are used in international commerce from the Persion Gulf to Europe, to Japan, to Australia, to what have you. This is how many of your major American fleets came into being.

Mr. Burton. As Panamanian ships?

Mr. Cole. As Panamanian, as Liberian—we at Texaco own 15 American-flag ships which is our Jones Act fleet. We have 29 British ships, 34 Panamanian, 8 Norwegian, and 2 Canadian ships. We also charter a significant number of foreign-flag ships for our international operation. These are all at lower cost to the consumer than U.S.-flag vessels for import trade.

Mr. Zusi. The fundamental driving force is lower cost of transportation which is passed on to the consumer in the form of lower cost product—especially as imported oil increases but without necessarily sacrificing the safety of operation. The flag of the vessel is not the key to the safety of the vessel, it's the operator's performance requirements that he sets for himself that determine the safety of the operation.

Mr. Burton. That's a pretty good "if."

Mr. Zusi. That's not an "if," that's an established fact——

Mr. Burton. But you were saying something and there was a qualification, and that's a pretty large hurdle to jump. Regardless of the flag of the ship, if the ship had a bionic crew, and was a bionic ship, it wouldn't matter whether it was Liberian, Panamanian, or American or anything. I would agree with that.

Mr. Zusi. If you saw the exposé of the *Argo Merchant* on NBC, you heard Mr. McKenzie, who spoke here this morning, testify to the fact that you find the best ships and the poorest ships in some of the foreign flags that you have reference to. And of the poorest there are probably 100, is the expression used, that are typical *Argo Merchant*s. The standards that are set by the companies that own and operate the vessels are the most important factor in a safe operation, not the flag of the vessel.

It relates back to your more fundamental question of what is the reason. The reason is lower transportation costs which can then be passed on to the consumer in the form of lower product costs.

Mr. Burton. It has nothing to do with profit? It all goes to the consumer?

Mr. Zusi. In a very competitive business like ours it eventually comes out in the form of lower costs to the consumer.

Mr. Burton. You are two of the biggest oil companies, how do you go about training your officers that are employed directly by your company to command your vessels?

Mr. Cole. If you are speaking to our foreign-flag fleets, those officers in our foreign-flag fleets are all graduates of the maritime academies of their country of home origin. We have Italian officers, we have Norwegian, we have British. As I stated the other day before Senator Magnuson's committee it is my opinion, and I am a mariner, I sailed all during the war in tankers and I'm a graduate of King's Point, that currently, once a license is issued our foreign-flag officers have access to better post-certification training than we do here in the United States today.

In our own case, Texaco, and I'm sure the same thing holds true for Exxon and the other major corporations and many of the independent tanker owners of the world—the large fleet owners—we have extensive training courses. For example, the simulator at LaGuardia with which Texaco has been associated. While we were the ones that got that thing started, we're only a client of that simulator. It is not the first simulator in the world. We've had a good many of our foreign-flag officers go through the simulators which are available in Europe over the past few years. They've been to the scale model basin in Grenoble. We've had over 85 officers go through that course.

Mr. BURTON. How do the crews compare?

Mr. COLE. Every bit as good and we run a good American-flag operation as well. But I must say that our Panamanian fleet which is manned with Italian officers and Italian crews is every bit as good as our U.S. fleet in terms of operation. We have some of those employees who have been with us 20 and 25 years as company employees. I think that the training that is available to them—we've gone into TV training for them, we've recently run a pilot program with Bell and Howell out in Chicago on simulated TV engine room casualties. These are made available to all of our people.

Mr. BURTON. Mr. Moffett?

Mr. MOFFETT. Thank you, Mr. Chairman.

I'm not sure where the problem lies then if, in fact, the foreign vessel operators are as good. It seems to me we have had quite a bit of evidence—and I think your testimony supports this—that there is a great deal of human error involved.

Mr. COLE. Significantly—one of the principal causes.

Mr. MOFFETT. Not negligence in your view?

Mr. COLE. Some of it is negligence; yes, if you call poor judgment negligence. It relates not only to ships officers, it relates to pilots as well. You can put a pilot on a foreign-flag ship in U.S. waters and you have a lot of accidents occur under pilots when the pilot actually has the "con" of the vessel.

Mr. MOFFETT. Your testimony fairly clearly calls for better training. You do seem to support the use of the VTS where it's needed.

Mr. COLE. We support it and have bridge equipment in the case of all ships, too.

Mr. MOFFETT. Do you support better international standards for training?

Mr. COLE. Definitely.

Mr. MOFFETT. I agree with the general thrust of your testimony and I read your testimony over the weekend. I agree with the general thrust that we ought to try and do this internationally.

I don't know if you were here this morning when I was asking the admiral how long can we afford to wait before taking some sort of unilateral action. While I find some encouraging things in your testimony, it seems to me that you're talking about rusty buckets but then you're saying don't use age as a criteria. You're talking about rusty buckets and problems of that nature, but then you're not really giving us any option to do anything about it here and now if those international agreements don't come through.

When you said it's the operator's performance requirement that he sets for himself, again we went back to this self-policing sort of attitude about this issue. There's also a lot of self-policing in what you're suggesting when you say that you're against the boarding of vessels and inspection on the high seas. You're leaving us in a position where you're saying, "Yes; it seems there's a problem and we've got to get the rusty buckets off, but we really want to leave it mostly to self-policing," or "We want you to work out some international agreements if you can."

Does API have a list of what would be bad tankers or rusty buckets? Does Texaco?

Mr. Cole. We at Texaco have our own list of those ships with which we have been associated or have knowledge of, but we don't have a complete worldwide list. That's why I think this McKenzie thing is going to be a godsend for everybody because for a nominal amount of money you can input into that thing when it goes on a computer fully; it's not yet fully on a computer. You can pull out by flag, you can pull out by owner, and you can pull out by ship all the incidents that have been tabulated since 1964.

Mr. Zusi. We have our own information system available also, and we would be happy to share this as a company with the Coast Guard together with whatever information they have.

We are, as Mr. Cole pointed out, enjoined from sharing it between major oil companies and through organizations. We'd be happy to make it available directly to the Coast Guard.

I'd like to clear up one impression that I may have made. I said that owners set their own standards, that doesn't mean we don't necessarily support an international arrangement whereby standards are raised. We feel standards as they exist today—especially for proficiency and qualification of personnel—are minimal, extremely minimal. They should be strengthened and brought up to the standards that some operators currently use on a self-policing, voluntary basis.

Mr. Burton. Are there different standards for your employees as against employees for ships you charter?

Mr. Zusi. We have limited control over the employees of the chartered vessels.

Mr. Burton. Is the answer yes?

Mr. Zusi. No; the answer is not yes entirely. As we both mentioned here—and other companies have the same program—we have a screening process before chartering vessels which takes into account the quality of the crew. We do not have as direct a control as we do over our own employees. But we do not, by any means, disregard the quality of the crew in selecting a vessel. It is not just a physical assessment of the vessel, it's a total assessment of the vessel and its crew.

Mr. Moffett. Let's talk about this issue of control for a moment because it seems to me that unless I'm really naive on this thing, you could have an impact on the foreign vessels. Couldn't the oil industry begin insisting on tougher standards before they do business?

Mr. Zusi. I think the word "begin" is misleading. We are imposing tougher standards on many of the independent owners now.

Mr. Moffett. So you think you are changing the behavior of some of the foreign vessels, some of the foreign operators?

Mr. Zusi. That's right.

Mr. Cole. I would like to go back to my earlier comments that individual companies can take these measures and do these things, but that the substandard operator can go to some other fellow, some fellow who has no knowledge of this. We are enjoined from passing this information on. That's why I think it should go public.

Mr. Moffett. I agree with that. The other thing that bothers me is this business of ship design and your contention that fooling around with ship design doesn't really make any difference. I'm sure you're aware of all the reports and statements and testimony that goes against that, including the one that you are quoting so frequently today—Mr. McKenzie.

Mr. Cole. We don't share Mr. McKenzie's views on certain of those aspects. A lot of it is in our testimony that is recorded.

I might mention for the record that in the case of double bottoms, the Shell VLCC *Metula* which went aground in the Magellan Straits 2 years ago, it's the considered opinion of both Shell Oil Co., the owners, and Smit's International Salvage which took that ship off the rocks down there—she lost 50,000 tons of her 200,000 ton cargo—it is their firm belief that if that vessel had had a double bottom she would have been hung up completely and become a total loss.

You have the case of the U.S.-flag tanker *Maryland* of which I have seen nothing in the press. It went aground on November 5.

Mr. Burton. Would the total loss have been the vessel or the oil?

Mr. Cole. Shell would have lost the full 200,000 tons of oil from the *Metula* which is 63 million gallons, in lieu of the 15,000 tons that was actually lost in the salvage of this single-hulled vessel.

You had the U.S.-flag *Maryland* which went aground in Abaco island in the Bahamas on November 5, 1976, on her maiden voyage—a 263,000-ton U.S.-flag tanker. It went aground at 8:30 in the morning 5 miles off the lighthouse. She penetrated a couple of her tanks, she had a single bottom, a single skin. I haven't seen all the records on this, but I understand the ship is currently in Japan undergoing repairs, renewing about 1,400 tons of steel in the bottom—she virtually rippled her whole bottom. She penetrated a few of the tanks and had she had a double bottom it's entirely possible that ship could have been completely lost. You would have had the biggest spill in the history of the Western Hemisphere, with 2 million barrels of oil aboard.

There are arguments both ways on this double bottom question.

Mr. Moffett. It sort of reminds me of when people say seat belts don't save lives because look at this example over here where the people were trapped in the car.

Maybe we're not reading the right stuff, but I think we are; and I've read the things that you have submitted. So much of what we read seems to indicate that it's just over-whelmingly convincing that double bottoms are going to prevent a lot of these things.

Mr. Cole. Some of what has been said about the Coast Guard study on double bottoms relates back to 1973. To the best of my knowledge, and I think the Coast Guard can bear me out, their studies were based on a limited timeframe. They subsequently went back and did some further studies and found that there was perhaps an equally, if not greater problem related to side shell penetration in a collision. This is why they have come up with what Admiral Benkert described this morning as a defensive ballast placement concept—not double bottoms.

Mr. Moffett. Do you think the President was only getting one side when he made his decision?

Mr. Cole. I don't know what the basis of the input was for the President's report.

Mr. Moffett. Did they consider your material?

Mr. Cole. I would hope they take into consideration what is available in the public domain that API has worked up in the past; yes. I don't know.

Mr. Moffett. To what extent is your analysis a cost benefit one on double bottoms?

Mr. Cole. We are working up a new set of figures because you've come down now to 20,000 tonners. We will have that available within about 10 days or 2 weeks.

Mr. Moffett. Part of your analysis is a cost benefit?

Mr. Cole. It definitely is.

Mr. Moffett. What elements go into that? Do you feed into that equation the damage done to marine life and to fishermen from the oil spill?

Mr. Cole. The cost as an offset?

Mr. Moffett. Right.

Mr. Cole. No; I don't believe we would put that in.

Mr. Moffett. That's the point.

Mr. Zusi. If you did you would have to include in it the debits of the additional environmental impact in those instances where double hulls cause more pollution than single hulls would.

Mr. Burton. We've got 10 minutes to make final passage on H.R. 4800, the Emergency Unemployment Compensation Act. We can come back and finish the questioning.

[Short recess taken.]

Mr. Burton. What was the situation surrounding the Exxon chartered ship that the Coast Guard turned back?

Mr. Zusi. You are speaking of an Exxon ship that the Coast Guard turned back? I'm not aware of that situation.

Mr. Burton. What about a Texaco ship? Was there a Texaco ship?

Mr. Cole. Was it the *Oswego Guardian?* I don't know what ship you're referring to.

Mr. Zusi. It broke down at sea and was being towed to Norfolk.

Mr. Burton. It might have been another company, but I remember it somewhere in my notes last week that there was a ship that was probably chartered by one of the major oil companies that the Coast Guard, I thought, would not let in our navigable waters. There was obviously a hazard. I was just wondering how something like that could happen.

Mr. Cole. I think we would support the Coast Guard turning any ship away which they felt was unsafe.

You may be referring to the *Oswego Guardian;* I'm not sure. It is a 110,000 ton Liberian-flag tanker which we had under charter. We've had her under charter for several years.

What happened was that she was making her arrival at the Delaware Capes and it was during a period of extremely poor visibility. In fact, she was outfitted with Loran and other modern navigational equipment. She came in and asked the Coast Guard for assistance in making the landfall at night under conditions of poor visibility and without her Loran working. The radio news report that came out was that the Coast Guard had turned that ship away. What the Coast Guard suggested was that she wait until daylight and then come on in.

So here the master utilized his single sideband radio, which is a high quality voice communication, he said my Loran is not working but my radar and my gyro and everything else are operating. I'm trying to get a landfall on the Fairway buoy which is 30 miles outside of the Delaware Capes.

Mr. Burton. How did this Loran break down; what happened?

Mr. Cole. Simple mechanical malfunction—this happens.

The master was being prudent and was held up to criticism. This is the kind of prudent action we should encourage more often.

Mr. Burton. When did the Loran go out?

Mr. Cole. I don't know. It's an electronic device.

Mr. Burton. It would be interesting if it went out before he started over this way.

Mr. Cole. I imagine it went out en route because most responsible owners will not have a ship sail from a port without the navigational equipment being operative. We'll even take a delay to get it fixed rather than take the chance.

Mr. Burton. So it was just a freak thing that put it out?

Mr. Cole. Yes.

Mr. Burton. You've described that your ships and most of the charter ships come up to a pretty good standard. Your ships, we assume, are a cut above the others.

How about the times you have to have a ship supplied for gas shipment on short order and you might have to take any ship that is available; do you run into that problem much?

Mr. Cole. I can tell you that in today's world we would not take a ship. We would forego the shipment if we had to. If we have a ship that is in any way questionable—and there are questionable ships—we wouldn't take it.

Mr. Burton. If it has to be done within a very short time span how could you even know if it was questionable? If it wasn't a ship that you recognized and knew was good, would you just pass?

Mr. Cole. We at Texaco have a system which Mr. Butterworth is familiar with. It's called the 20 questions. This goes beyond the previous acceptance of a well-found ship, a good owner. We go so far as to ask for the license origin of the officers; if the certificate is Liberian or Panamanian we ask for the country issuing the original license; whether the classification society has been changed during the period of ownership; whether there have been any groundings, collisions or pollutions in the last 12 months, and so forth.

Mr. Burton. That's on every ship?

Mr. Cole. Every voyage chartered ship and all the brokers come in with these answers in their cables. It's known throughout the industry.

Mr. Burton. Does Exxon do that too?

Mr. Zusi. Yes. In fact, the supplemental information that I provided to Mr. Butterworth, you'll find in there the criteria for chartering vessels.

Mr. Burton. Mr. Moffett, I'm sorry to interrupt you.

Mr. Moffett. It's OK, Mr. Chairman.

As I understand it there are two kinds of charters that a shipper can be faced with—a voyage charter and a time charter; is that correct?

And with the time charter the company has plenty of time to pick and choose a competent crew and a safe skipper, and so forth. With the voyage charter, however, as I understand it there is more or less an immediate need for transportation. I have a couple of questions with regard to this.

Have most of the spills taken place in one category or the other? Do you see a trend there? Could we conclude that you have more mishaps when a shipper is going with a voyage charter and has a more immediate need and maybe doesn't have time to select a competent crew and a safe ship?

Mr. Cole. I don't think we've addressed ourselves to it.

Mr. Zusi. I don't have any facts relative to it, but certainly directionally you would be led to believe that the risk is higher with the spot charter than with the time charter for some of the reasons you've mentioned. Also there is the possibility that the spot chartered vessel is the least desirable one from the standpoint of charter—otherwise it would not be on voyage charter to someone. What's remaining on the market would otherwise be on a time charter.

Mr. Moffett. What do we know about Texaco's operation, and what percentage of your charters are what you call spot charters?

Mr. Cole. The majority of our charters are time charters.

I think pretty well through the industry that it's a given fact that ownership and time charter accounts for about 90 percent of your tonnage coverage. Probably on the order of 5 to 10 percent is spot charter.

Mr. Zusi. It's the same for us.

Mr. Moffett. Is that the same term as voyage charter?

Mr. Cole. Voyage charter and spot charter are the same. They are for one trip only.

Mr. Moffett. Can we conclude that a different set of standards are used for each of those?

Mr. Cole. In our evaluation of these ships?

I think that the time charter enables you to make a physical inspection of the vessel prior to fixing it. But I do think that with this series of questions from which we elicit this additional information from the owners, that this gives us a pretty good clue.

By way of illustration, we had our chartering people come in the other day and they had a Cypriot-flag vessel—I forget what the nationality of the officers and crew were—but she had also changed classification societies recently. I said right away that she had three strikes on her. So we just turned that ship down. We can't tell some other oil company that the XYZ ship is a lousy ship or a poor ship. They've got to find that out and they're left to their own devices. That's why we go back to the Coast Guard as being the body that can really pull this thing together. I think that is the best way of getting these 100 or so rust buckets off the oceans, through this disclosure.

Mr. Moffett. You said earlier in your testimony that you are virtually in full accord with what the Coast Guard had been doing. Were you surprised to learn that they don't subscribe to the same publication that Mr. McKenzie does?

Mr. Cole. It's Mr. McKenzie's service.

Mr. Moffett. He said that he goes to Lloyd's.

Mr. Cole. It's a daily publication. I have with me the sheet on the Maryland which I described before. It's an American-flag tanker. They publish each and every known casualty.

Mr. Moffett. If you were in the Coast Guard and you were charged with this kind of responsibility for keeping tabs on what's going on; wouldn't you——

Mr. COLE. In all fairness to the Coast Guard, I think you will find and they will find, that they have a very good data bank in their computer currently. I would think that if they take under consideration the utilization of the McKenzie service by melding the two, which you can do with computers today, that they would only augment their knowledge. It was my personal recommendation to Admiral Benkert that he should consider subscribing to this service.

Mr. MOFFETT. Did it surprise you that they hadn't been subscribing to it?

Mr. COLE. No; because this is not really yet a full fledged system. I go back to what I said before. We're one of the initial subscribers to the full-fledged computerized system which goes on line May 1, 1977. They have been working for a year to get this handwritten card data into the computer. Now it's coming to fruition and now that it is I think the Coast Guard would probably benefit by subscribing to the service.

Mr. MOFFETT. What about the information that you get from the classification societies?

Mr COLE. There is only one classification society that puts this out. There are five principal classification societies around the world. They do not publish the same type of data.

Mr. MOFFETT. But they do have data that's available?

Mr. COLE. They do with respect to the ships that they hold classification for. The Lloyd's material puts out any ship regardless of classification.

Mr. MOFFETT. It amazes me that even if you excuse them for not having gone after this information before the last 7 or 8 months—what we have gone through in the last 7 or 8 months with this rash of spills and so forth—I can't imagine why the Coast Guard wouldn't be trying to find every bit of information it could, without spending much more money, on these vessels? They seem to have very narrowly construed their role to say, "Our data bank seems to relate to those vessels who have had problems in U.S. waters." I just want to get your view on that.

Mr. ZUSI. They haven't been working in a vacuum, because they were intending to inspect the *Argo Merchant* when she arrived at Boston, so they have a program in effect. We support an extension of that program and are willing to work with them on it.

Mr. MOFFETT. Mr. Chairman, do we have the 20 questions that you asked?

Mr. BURTON. Yes.

Mr. MOFFETT. We do have those?

[See pp. 234–235.]

Mr. MOFFETT. If you could provide for the record any information you might have on the percentages—if we have a higher percentage than one might expect of accidents taking place with time charters. I think that's a very important question.

One more question I would have. You mentioned the savings you achieve by using foreign vessels. Can you be specific with us about cost per gallon, for example? I heard what you said and it seems to make sense on the face of it, and yet I've heard other people say that the impact on the consumer is not that great.

Mr. COLE. From the API's recent testimony before both the House and the Senate on cargo preference, which is a 30-percent mandate, it is indicated that on an annual basis—and we'd be happy to make available our material—that for the 30 percent that is mandated, that by 1985 it will be an additional cost to the country of about \$5½ billion per year for that cargo preference. It works out to about 4 cents a gallon.

Mr. BURTON. \$5½ billion more than it costs now or \$5½ more than now would cost in 1985?

Mr. COLE. The foreign- and U.S.-flag ships are both escalated to 1985, so we've kept them in parallel.

Mr. MOFFETT. The question I was asking when the bells rang last time: To what extent are you factoring in damage to environment and so forth; to what extent would it be fair or possible to factor in the safety that we might buy by going with our own vessels?

Mr. COLE. We're not convinced that you're going to buy safety by double bottoms. I think part of our problem today is that our country has no deep water ports.

Mr. MOFFETT. But do we buy safety with American trained personnel as opposed to——

Mr. COLE. Not in my view; no.

Mr. MOFFETT. Thank you.

Thank you, Mr. Chairman.

Mr. COLE. I think that some of the rust buckets on the water today hopefully will not be on the water in 5 years if we get some deepwater ports. You're bringing your crude oil up the Mississippi, up the Delaware, into the Houston ship channel in five ships instead of putting it at one offshore terminal in one ship which is a more modern and better operating ship.

Mr. BURTON. Mr. Walker?

Mr. WALKER. I'd like to pursue something I started here earlier today with you a little bit. Do you have any kind of feel or maybe even some statistics which would show what percentage of risk—how much does the percentage of risk go up for the amount of oil we import? In other words, if we go from 45 to 50 percent of imports, it seems to me we're getting up to the point now where you are almost forced to use some vessels, from time to time, or at least some shippers are forced to use some vessels that are less than seaworthy. Where do we reach the point where we are taking grave risks by increasing our imports of oil in this country?

Mr. COLE. I don't know that we have worked up any statistics. I don't know if you were in the room when I recited earlier that we had gone from 2.7 million barrels a day of imports by tanker in 1970 to something on the order of 7.5 million barrels a day last year. I think the NPC forecasts show that going as high as 10 million barrels a day in 1980. Couple that with the lack of super ports here and the ability to receive the VLCC's, and we effectively perpetuate some of these smaller size vessels.

However, it is my belief that if we get tighter enforcement here in Coast Guard inspection, I think that is one of the primary things that you can do to keep the rust buckets from coming to this country. I think you can still live with the requirement of imported oil. I can only hope that we will move directionally toward the deepwater ports.

Mr. Walker. But would you agree that there is proportionately greater risk, particularly at the kind of levels of importation that we are doing right now.

Mr. Cole. Certainly, as you bring more vessels into U.S. waters—and by U.S. waters I mean our piloted waters—I don't mean the coastal waters effectively. I mean the areas of dense traffic concentration such as the Delaware River, the Mississippi, Houston ship channel. If you look at the retrofit of segregated ballast on these smaller vessels, some of your 20,000- and 30,000-ton tankers are going to lose 30 percent of capacity because they have a volumetric problem. So as a consequence, instead of having two tankers go up and down you're going to have three.

These are the kinds of things, we hope, that have been taken into consideration in formulating these recommendations for the President.

Mr. Walker. In effect what you're saying then is that an energy philosophy which has brought about an increased reliance on imported oil has also brought with it the great danger of oil spills?

Mr. Cole. Because of our mode of receiving that oil; yes.

Mr. Walker. Are you saying that maybe the policy that we should be pursuing rather than some of the things that are being mentioned in this program—that there should be another mode of receiving the oil and that would be far better than investing the money in inspection programs and this kind of thing?

Mr. Cole. First of all, I think that a diminished reliance on foreign oil imports is something we already support. Second, I think that the only change in mode that I can see is that we are going to import significant quantities of oil. I think that the acceleration of the deep water port program is one means of lessening the accidental pollution that we are suffering in this country today.

Mr. Walker. Have you done any studies on the risks inherent in offshore drilling versus the risk inherent in tanker delivery?

Mr. Cole. No; we're not familiar with that subject. The Institute may have done it, I don't know. But from what I know about the offshore industry, it's a fairly safe industry.

Mr. Burton. You can't tell them that down in Santa Barbara.

Mr. Cole. I think the Santa Barbara incident was one unfortunate incident.

Mr. Burton. It made radicals out of a bunch of ultraconservatives.

Mr. Walker. The *Argo Merchant* made radicals out of a lot of people.

Mr. Cole. There is no such thing as a crashproof airplane either.

Mr. Zusi. I'd like to point in answer to a portion of your question some action that the industry is taking to mitigate the need for more tankers to keep pace with the amount of imports. That action is the better and longer range use of the newer VLCC vessels of which there happens to be a big surplus in the world today through the lightering operations that are taking place off the California coast by some members of the industry and in the Gulf of Mexico by other members. This permits the larger ships to be used for a longer portion of the voyage and then very selected, carefully crewed, and carefully manned and equipped vessels to be used to transport that oil from the large ship into the receiving port which has limited draft and, therefore, limited size capability. This backs out the need to charter a smaller ship, and presumably older ship, for the longer portion of the voyage and have many, many small ships. It confines it to a controlled number of carefully crewed and carefully maintained vessels arriving in port.

Mr. WALKER. That's a plan that is essentially based upon the fact that we are going to have increased reliance on imported oil.

Mr. ZUSI. That's right. It's currently a substitute for Loop and Seadock, the offshore unloading facility.

Mr. COLE. It's only a stop-gap measure in my view.

Mr. ZUSI. That's right. It's a stop-gap measure that was taken by the industry now until Loop and/or Seadock are available.

Mr. WALKER. Thank you, Mr. Chairman, I have no further questions.

Mr. BURTON. Deep water ports are not without their controversy, are they?

Mr. COLE. There has been some controversy in this country. There are, however, around the world a significant——

Mr. BURTON. I'm not concerned with what happens around the world. I know out in California there's significant controversy. What about "super tankers make super spills"? It isn't universally accepted that they are desirable. They may or may not be. I know this is as controversial as many other issues that are facing us.

Mr. WALKER. It seems to me that the testimony we got here earlier today indicating offshore drilling versus tankers, if I understood the Coast Guard's testimony correctly they are saying that there is about 20 times more risk of having an oil spill from tankers than there is from offshore drilling. It would be interesting to know what it would be with the offshore super tanker ports as well—what kind of risks are we really talking about with regard to our own coastline.

Before we can really consider a lot of the policies that we talked about with regard to oil spills and tankers, we have to look at the overview of what all we have in mind for the future as well, and where we're willing to take the risks and where we're not willing to take the risks. We've backed into a tanker kind of philosophy almost from the standpoint that we are unwilling to accept some of the things like offshore drilling. We were unwilling to accept more drilling for oil for various reasons in this country. So we backed ourselves into a tanker philosophy which has resulted in a large number of spills and a lot of damage to the coastline in this country.

It seems to me that if we are going to develop policies for the future, we ought to be taking a little larger view and a little longer view.

Mr. COLE. I'm inclined to agree with you. I think the first step is a basic energy policy for this country.

Mr. BURTON. Even given that, the President stated, and there is some logic to it, that if we have oil available to us in this country underground, we will have that oil available to us. If we use up the oil that we do possess, then we are totally dependent on foreign sources. So he is going to keep using or eliminate the need to use foreign sources. To a certain extent, not only can we exploit our own but we can conserve our own.

The whole thing is a two-edged sword. The oil industry has had as much to do with our policies of import and not importing oil as anybody I know of. It's everyone's responsibility.

Mr. ROMNEY. How are the recommendations which you have laid out in the last part of your statement to shipowners and charterers formulated and how are they then communicated to the members of the Institute?

Mr. COLE. You're referring to the last two paragraphs that are in our testimony.

As I mentioned before, we are enjoined as a group from collectively pursuing these items. We can only recommend these to individual companies. There is an antitrust problem as you are probably aware. However, within API we will disseminate to API members these suggestions with the caveat that you as a member give consideration to doing this. There is no obligation—and can be none to my knowledge under current antittrust laws—for API members to necessarily pursue what is recommended.

This is why we go right back to the Coast Guard in getting this out into the public domain.

Mr. ROMNEY. How do you formulate these?

Mr. COLE. These recommendations are based largely upon the expertise contained within API on ship operating and ship chartering matters.

Mr. ROMNEY. How have they been approved?

Mr. COLE. They have been run through the legal staff of API to insure that what we are saying is not in conflict with our current laws on dealing with such material.

Mr. ROMNEY. Have they been adopted as official recommendations?

Mr. COLE. Of API?

Mr. ROMNEY. Yes. Have they been adopted?

Mr. COLE. They have been adopted by the Central Committee on Transportation by Water. They will now be going to API management for their approval for full dissemination to every current member of API. Hopefully, they will abide by them or at least take them up as suggestions.

But this still doesn't take care of the little fellow who purchases the odd cargo lot or the utility company that may not be in API. This still is a big, gray area out there that, I think, has to be dealt with. Forgive me for repeating this, but through this Coast Guard publication this is one way you're going to do it. Let them deny these ships entry, let them turn them around.

Mr. BURTON. How are we going to turn them around; that's the problem.

Mr. BUTTERWORTH. With regard to Texaco, I'd like to get a couple of questions answered just for the record. When was this list of 20 questions first promulgated and when did you first actually start using it?

Mr. COLE. This is an expansion of our previous system covering voyage charters.

Mr. BUTTERWORTH. That previous system began when?

Mr. COLE. We didn't have as extensive a system. If the ship was well-founded, was in class, and was owned by a reputable owner known to us, we would normally take it on a voyage charter with supplemental information in-house as to owners with whom we would not deal. We have formalized this and made this now a warranty on the part of the owner in the "fixing cable." I would say this expansion probably goes back to sometime around the first of this year.

This particular list that you have is a formalized way of doing it. This becomes a part of each voyage file now and is really an undertaking under our warranty.

Mr. BUTTERWORTH. When you voyage charter or spot charter, can you explain briefly the mechanism that you go through. You have agents stationed somewhere.

Mr. COLE. We deal exclusively through ship brokers—third parties.

Mr. BUTTERWORTH. Those brokers are in the United States or overseas?

Mr. COLE. For charters in U.S. waters they are exclusively U.S. brokers. If we need a ship to go from Trinidad to the U.S. gulf or to New York, we put the order out. You go to perhaps a half-dozen brokers and say we need a 40,000 tonner ready on March 25 for a voyage, Trinidad to New York or north of Hatteras.

Mr. BUTTERWORTH. So, the time between the order and the action of the broker—how long is that?

Mr. COLE. It can be a matter of minutes. We may have half a dozen ships come back through that series of brokers willing to take that piece of business—then it becomes an auction, whatever the market rate will be, and whether one ship is earlier or later than another ship, perhaps a little bit better size, maybe the owner is better known to us.

Mr. BUTTERWORTH. So economic considerations enter into your decisionmaking there first?

Mr. COLE. It will where there is no other consideration. If you have two owners of distinctly different reputation and operating background, you won't take the cheaper ship from a party whom you would not normally deal with.

Mr. BUTTERWORTH. Who then uses this form, the broker?

Mr. COLE. Our chartering people within Texaco who make the decision.

Mr. BUTTERWORTH. Once they have a list of ships referred to them by broker, they use this form to make their decision.

Mr. COLE. Each ship offered will come back with this information on it. As I say, when they get something that doesn't look quite right to them, they will come up to management.

Mr. BUTTERWORTH. How long a time do they spend inspecting the vessel?

Mr. COLE. On the voyage charter there is no inspection done because of time. You are normally chartering a ship that is en route to the loading port and will be there within a few days on a voyage charter.

Mr. BUTTERWORTH. So this list is not pertinent for voyage charters?

Mr. COLE. That checklist is for voyage charters.

Mr. BURTON. They don't have the physical inspection?

Mr. COLE. This is a checklist. We have one for time charters which are also what you have. (See pp. 199–204.)

We physically send people down on the ship to take a look around as well as doing further investigation. This list of 20 questions elicits, by telex from the owners, the warranty that covers groundings of the last 12 months, pollutions of the last 12 months, his record with classification society, when the vessel was last drydocked, the nationality of his officers and crews, their licenses—this is the kind of thing that can come back.

The industry is now attuned to doing this. Most bona fide and first class owners have all this information on file with their brokers, or they can get it very quickly and come back by telex in a matter of an hour or two.

Mr. TEMPERO. Do you keep the information that you solicit on file so that the next time you might get an offer from the same ship you have their previous record?

Mr. COLE. Yes; we have a system for doing that.

Mr. TEMPERO. Then it doesn't do them much good to try and slip one by you?

Mr. COLE. Not particularly—and I might add that when Art McKenzie's system comes in we're also going to have the ability to punch in independently what is warranted or represented under a broker by the owner. We'll be able to read out in our own offices the information on that ship going back to 1964.

Mr. BURTON. Thank you, gentlemen.

The subcommittee stands adjourned until Wednesday morning at 10 o'clock.

[Whereupon, at 3:55 p.m., the subcommittee adjourned, to reconvene at 10 a.m., Wednesday, March 23, 1977.]

COAST GUARD EFFORTS TO PREVENT OIL POLLUTION CAUSED BY TANKER ACCIDENTS

WEDNESDAY, MARCH 23, 1977

House of Representatives,
Government Activities and
Transportation Subcommittee
of the Committee on Government Operations,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2154, Rayburn House Office Building, Hon. John L. Burton (chairman of the subcommittee) presiding.

Present: Representatives John L. Burton, Anthony Moffett, Jack Hightower, Robert S. Walker, and Arlan Stangeland.

Also present: Miles Q. Romney, staff director; Bruce R. Butterworth, professional staff member; Cynthia M. Mora, professional staff member; Elizabeth L. Wasserman, clerk; and Richard M. Tempero, minority professional staff, Committee on Government Operations.

Mr. Burton. The Government Activities and Transportation Subcommittee will come to order.

On this second day we did ask the Coast Guard to come back for some further questions, and we know that the admiral has a fairly tight schedule so we will get started.

First, I would like to acknowledge members of the subcommittee who are now here. Mr. Hightower of Texas and Mr. Stangeland of Minnesota.

Mr. Ryan of California, who is chairman of the Subcommittee on Environment, Energy, and Natural Resources, and who has been holding in-depth hearings into this same subject matter from another vantage point, is here. We are pleased to have Mr. Ryan with us.

Admiral, why don't you come up.

Do you want to deal with the questions first, and then comment after?

STATEMENT OF REAR ADM. WILLIAM M. BENKERT—Resumed

Admiral Benkert. Whatever you desire, Mr. Chairman. I'd be pleased to respond to your questions.

I do have just a couple of short items that I would like to bring to the attention of your subcommittee before I am through, sir.

Mr. Burton. Well, why don't you deal with those now, then we'll get into the questions.

Admiral Benkert. All right, sir.

Mr. Chairman, during our hearing on this past Monday Mr. Arthur McKenzie testified and had a prepared statement which he read and presented to your subcommittee.

I would like to say this—the Coast Guard is generally in almost full agreement with the comments and some of the thoughts that were expressed in Mr. McKenzie's statement.

I would like to say, however, that in connection with the statistics which were presented in Mr. McKenzie's paper—I have a copy here, sir, of his statement—and if I might just for a moment refer to them. On page 2 of Mr. McKenzie's statement there is a listing of statistics there relative to tanker total losses by flag.

My thought in looking at these statistics is really a very simple one; and that is that you can show statistics to sort of show most anything you want, depending on how they are presented.

These particular statistics, for example, show a number of losses and a percentage of losses of the Russian-flag vessels as being zero.

Well, if I might offer, Mr. Chairman, the reason for this is that the Russians don't report their losses. So that this particular presentation—I think if you just look at the table itself—gives a rather false impression, sir. (See app. 3B, p. 529.)

Also, in looking at the other losses that are presented in this statistical table—some of the fleets of vessels are very small ones, and the loss of one vessel, for example, during the course of a year—which can happen, really, to anybody—then presents a large percentage figure for that particular country's flag vessels.

You have to temper an appraisal of this kind of a statistical analysis with some knowledge of really what you're looking at.

Furthermore, where the vessels operate is a very important part of an appraisal of any vessel loss concept. For example, in the climatic conditions such as you have in the winter in the North Atlantic, or in the South Atlantic in the wintertime—you have an entirely different situation than you have with vessels which may be operating coastwise under completely, what I would call, good operating weather conditions.

All I'm saying, Mr. Chairman, is simply that in looking at this type of statistic you have to look beyond just the numerical facts that are presented in the statistical tables themselves.

I would also like to say, Mr. Chairman, if I might, in regard to Mr. Greenberg's statement—unfortunately I did not have the opportunity to remain during the course of the hearing on Monday to hear Mr. Greenberg in person. Some of the statements which Mr. Greenberg has in his written statement, which I presume was entered into the record—I would simply like to say that in his statement itself there are several things which I disagree with, and in which I think that the Coast Guard is being unfairly maligned.

In particular, there is a statement in Mr. Greenberg's written statement at the top of page 4 dealing with the 1973 Marine Pollution Convention which indicates that this convention did not contain anything of any real value other than the segregated ballast concept.

This is not a true statement, Mr. Chairman.

Furthermore, there is a statement at the bottom of page 4 which says that the Coast Guard has not to date adopted a single major design and construction standard, either for U.S.- or for foreign-flag tankers, which is not already agreed to internationally under the auspices of IMCO.

He has added a little note on the bottom of the page to explain this statement; but I really think that the basic statement itself, even with the addition of the note, is not a true statement, sir.

Further, I would simply like to say that in line with what I mentioned just several moments ago Mr. Greenberg's statement indicates that the—and I'll have to look through here for this statement—but he indicates that the Coast Guard's approach to—this is at the top of page 5 of his statement, sir—"That the Coast Guard's approach in implementing the Ports and Waterways Safety Act has been justified by the Coast Guard for political and not for technical reasons."

I feel, Mr. Chairman, that this impugns the integrity of the Coast Guard.

I think it's not warranted; and it's not true.

That, basically, is what I had to say, sir, regarding their statements.

Thank you very much, Mr. Chairman, for your patience.

Mr. BURTON. Dealing with the first two points. What, other than segregated ballasts, has the Coast Guard addressed itself to?

In other words, he made a statement that in effect said the Coast Guard's actions have been limited to something.

You said that isn't true; which I imagine means that the Coast Guard has taken other steps.

What steps, beyond the ones that he claims are the only ones you took, have you taken?

Admiral BENKERT. We have put out, sir, very extensive pollution prevention regulations under the basic authority of the Federal Water Pollution Control Act which apply to both U.S.-flag and to foreign-flag vessels in our waters.

We have gone beyond even the 1973 Pollution Convention requirements in looking toward the location of segregated ballast spaces on both foreign and U.S. new tankers as protective spaces on the vessel.

We have put out a number of regulations which are incorporated in proposals which were put out a number of months back and which are in the final stages of development now, looking toward final regulations relative to gas ships, relative to chemical carriers—which are not only in line with the internationally agreed upon codes set up by IMCO but in fact go beyond those codes.

In the convention itself, Mr. Chairman—in which I believe Mr. Greenberg's statement indicated that the segregated ballast concept was the major design and construction aspect—this is not true.

There are requirements for slop tanks; there are requirements for piping systems; there are requirements for other equipment aboard the vessel. We can give you these for the record, if you would like them itemized. These go well beyond simply the concept of segregated ballast for these tankers.

[The information follows:]

Specifically, Coast Guard regulations now require, for certain U.S. and foreign seagoing tankers using U.S. ports, that:

(1) Segregated ballast spaces on new tankers of 70,000 dwt and over be placed defensively to mitigate polluting outflows resulting from collision, ramming, and grounding type accidents, (this requirement exceeds the provisions of the 1973 Convention);

(2) Certain pumping, piping, and discharge arrangements be utilized to facilitate environmentally safe handling of cargo, ballast and oily residues;

(3) An observation area be designed in to facilitate visual monitoring of overboard discharge;

(4) Slop tanks be installed to retain tank washings, oil residues, and dirty ballast residues;

(5) An oily residue tank be installed to retain residues from the purification of fuel and lubricating oil, and bilge wastes;

(6) Cargo tanks be arranged and the sizes limited on new vessels to mitigate outflow in event of accident;

(7) Stricter subdivision and damage stability criteria be met on new vessels;

(8) Each vessel be provided a manual containing detailed information on the cargo and ballast system.

These regulations were published as final rules in the Federal Register of October 14, 1975; January 8, 1976 and December 13, 1976 and implement the key provisions of Annex I of the 1973 Convention at a date well before international adoption.

Several years have been spent developing meaningful performance specifications for oily water separators and oil in water monitoring equipment. The specifications will very shortly be issued as proposed regulations along with specific requirements for the installation of the equipment aboard vessels.

We have put out very extensive pollution prevention regulations under the authority of the Federal Water Pollution Control Act which seek to prevent the large number of small spills associated with cargo transfer and fueling operations of vessels. The rules are being extensively modified and will very shortly be published as proposed rules.

In addition, the January 31, 1977 Federal Register contains the "Navigations Safety Regulations." These rules were published in order to codify good navigation practices and thereby significantly reduce the large number of incidents directly attributable to substandard human performance.

Admiral BENKERT. The Coast Guard, since 1972, Mr. Chairman, has proceeded, in my opinion, at a good, solid rate to put forth regulatory action dealing with these types of vessels under the authority of the Ports and Waterways Safety Act.

I do believe that one thing that comes forth in this whole regulatory scheme, dealing with the design, construction and equipping of tankers, is that we have been working under the provisions of the Ports and Waterways Safety Act—title II, particularly. One of the requirements in title II dealing with the development of the design and construction of these vessels is very specific as to what the Coast Guard must do in putting forth regulations.

This is contained in title II, in section 4, which tells us—I could read this, Mr. Chairman, but I don't think it's necessary.

The point that I want to bring out is that we are required to consult, we are required to publish proposals, we are required to determine the need for the regulations, the extent to which they will contribute to safety and environmental protection, and the practicability of compliance therewith, plus cost and technical feasibility.

We have been operating under these requirements, plus the requirements of the Administrative Procedure Act; and I feel we have done a good, solid job in that time.

We have now, as you know, been directed by the President to speed up our activities and to expand our activities; and, of course, we are prepared and are proceeding forthwith in accordance with that direction, sir.

Mr. BURTON. Thank you, Admiral.

The American Petroleum Institute made a recommendation that you have a log or a chart or something that lists the unsatisfactory vessels. In other words, you have a list of—to use a very broad brush—let's say unsafe or unsatisfactory vessels.

Admiral Benkert. We keep records, Mr. Chairman, of the vessels that we board and have inspected and so forth—both U.S.-flag and foreign-flag vessels.

Where we have examined these vessels, we do keep good records of what we found; yes, sir.

Mr. Burton. Well, a point made by the American Petroleum Institute was that if you published part of the information you have, and made it available in the public domain, people would be apprised of certain vessels that may well be unsatisfactory; therefore, people with this knowledge would be less likely to hire, charter, or even make a bid for loads that are on these vessels.

Their statement was that while members of the American Petroleum Institute are big enough to do this themselves, there are many other purchasers or people involved in this commerce who really don't have the wherewithal to obtain the "racing form" on the various vessels, and that if the Coast Guard issued this as part of a monthly report it would be very beneficial. Then almost all people engaged in this type of commerce would know full well the type of vessel that they may be dealing with—as part of the consumer education.

Many of the really "rusty buckets," as they were described, would probably find themselves not being utilized.

Would there be any problem with the Coast Guard making those lists available? In other words, putting them into the public domain?

Admiral Benkert. I think the statement makes a good point, Mr. Chairman—and I think that we probably can and should make a better effort toward publicizing information that we do have regarding vessels.

Mr. Burton. Their specific example was that you could have a small utility district somewhere, or really a small independent operation. They would have no idea of the history or background of a ship, and wouldn't have the staff or the capability of doing the research that the Coast Guard would have—or that the American Petroleum Institute could do.

It would just seem that is something that makes sense and might be easy to do. It wouldn't solve all the problems, but at least would put in the public domain those vessels that clearly are not great as far as safety is concerned.

Also, as to subscription to the data that Mr. McKenzie has—it does seem incredible that the Coast Guard wouldn't avail themselves of that type of information.

You said you keep information on accidents that ships have in American waters, so to speak.

Admiral Benkert. Yes sir.

Mr. Burton. But you might not have a record on the ship that had three accidents off of the Cape of Good Hope, or somewhere else?

It would seem to make a great deal of sense for the Coast Guard to avail itself of the materials and information that Mr. McKenzie has—probably a pretty good savings, as opposed to trying to build your own system.

Also, with your computer capability and with your information bank, the ability to tie the two together would probably provide the Coast Guard with the best information available; and if you wouldn't want to do that, at least you might subscribe to the Lloyd's of London list that indicates every ship that's had some form of casualty.

Admiral BENKERT. We agree, Mr. Chairman. We could do better in this regard, and we plan on doing so.

Mr. BURTON. You could do it pretty easily, though, too; right?

Admiral BENKERT. I think so, sir. Although, as I think I stated the other day, there's a good deal of information here that we feel would be of value to us. There is some that isn't. We're trying to sort it out. We agree that we could do much better in this regard, sir.

Mr. BURTON. And it's your intention to do so; right?

Admiral BENKERT. Yes, sir.

Mr. BURTON. Because definitely your information is limited if you only have information on accidents or casualties that happen under your jurisdiction, which——

Admiral BENKERT. We do have some other information, Mr. Chairman—but not to the extent that was voiced in the testimony on Monday, and we intend to follow through on this, sir.

Mr. BURTON. I'll ask one more question, then yield to members.

The charts—you see the figures that were prepared by members of the subcommitttee staff with GAO assistance. See app. 2A, p. 491.) They illustrate what is called the revolving fund that you administer under the Federal Water Pollution Control Act to pay for cleanup costs. This really doesn't revolve very well. There's about a $23 million difference between charges, funds assessed, and billing for those causing pollutions.

How do you account for this difference? Not to the last dollar; but why is there such a disparity?

Admiral BENKERT. With your permission, Mr. Chairman, I'd like to ask Captain Schubert to discuss this particular area.

Captain SCHUBERT. If I understand your question correctly, Mr. Chairman, you are asking the reason for the difference between the amount expended versus the amount collected. Is that correct?

Mr. BURTON. Let me give you two subquestions that are under that. Is there a Coast Guard policy that requires you to bill the responsible party up to the limits of what the Water Pollution Control Act allows—which is what, $100 a gross ton or 14 million, whichever is less—or do you sometimes even bill for less?

Captain SCHUBERT. As a general rule, our policy is to collect up to the limit of liability the actual cost incurred by the Government in the cleanup activity. This is usually countered by the person who is responsible, in that they would agree to pay reasonable costs. However, we take a fairly hard line on collecting actual cost. It's generally not negotiable.

There may be some peripheral costs which are negotiable. For example, bringing in an expert on bird cleaning and paying his airline fare—which has been done in certain cases.

Mr. BURTON. That's a lot of airline tickets—$23 million.

Captain SCHUBERT. Yes, sir, but on this particular case we would go to the limit of liability. If we are unsuccessful in reaching a settlement under our terms, then of course it is turned over to the Justice Department for litigation.

Now the difference in the $23 million—we have a number of spills that are what we classify as mystery spills. That is, either the source is unknown, or there is insufficient evidence to prove that who we suspect spilled the oil is in fact really the person who is responsible. In these cases, the fund absorbs the cost.

We also have a number of collections based upon cleanup costs that are still in litigation. I don't have that figure available right here, but it is a sizable figure.

Mr. BURTON. Could you let us know how much you have to, in effect, write off because you can't find somebody to collect from, and how much might be due and owing—in ther words, in litigation.

Captain SCHUBERT. Yes, sir.

[The information follows:]

Pollution fund expenditures on unknown sources

1973	$854,000
1974	2,500,000
1975	677,040

NOTE.—As of Jan. 1, 1977, the United States had approximately 80 cases in litigation totaling over $26 million.

Mr. BURTON. And what is the Coast Guard's position if you come in and tell me that I owe $2 million, and I say that's really outrageous and I only owe $25. Then you have to turn it over to Justice if I don't pay.

What is your approach to my next ship that wants to come within your jurisdiction?

Do you understand what I'm saying? I could just get hung up in court, and go on doing business as usual.

Captain SCHUBERT. Yes, sir.

I would say that until the court case is settled one way or the other we would have no legitimate authority to really discriminate against any other vessel of that particular company.

A big oil company, for instance—if they have a vessel that spills, and that case is in litigation, we cannot proceed in any manner against other vessels of that company.

Mr. BURTON. That's a statutory prohibition?

Captain SCHUBERT. I would have to defer to legal counsel on that, sir.

Admiral BENKERT. Mr. Chairman, if I might—we have a member of our legal counsel here. I think he perhaps could respond to this. Commander Burgess, who is from the Office of the Chief Counsel of the U.S. Coast Guard.

Commander BURGESS. The statute provides that we can require that a surety be put up by a vessel which—in the case of a vessel that spills, to cover the cost of the penalty.

If he has an FMC certificate, that FMC certificate is evidence that he at some time in the future will be able to come up with the money if it turns out that the court says that he is liable for it.

We don't have a provision to say, "because you have not paid this alleged cost of removal," that we can exclude him from our waters.

Mr. BURTON. Let's take the worst example—$2 million, and I say I either owe you nothing or $100. So obviously either the Coast Guard is totally off base—which we know you aren't—or I'm not dealing in good faith. In cases where subjectively—but actually from an objective point of view—the defendant, or whoever, is in bad faith and can just drag it out in the court for 1 year or 2 years or whatever—

are you statutorily prohibited from taking further action, from putting the company on an unfair or unsafe list, or doing anything?

Commander BURGESS. We have no authority to take such action as that. Our only authority is to refer it over and try to collect it.

Mr. BURTON. That's your authority as far as the money goes. How about the authority as far as future activities of the ship or the company are concerned?

Commander BURGESS. Well, I think it would depend a little bit upon the particular situation.

Mr. BURTON. Well, let's assume that it's the right kind of a particular situation.

Commander BURGESS. We still don't have authority unless that—if that vessel comes into our waters and it meets appropriate Coast Guard standards on the next trip through, then we don't have any authority to exclude it.

In other words, it's conceivable that there could be a personnel error and they could, say, during the night pump thousands and thousands of gallons of oil—and there isn't anything wrong with the vessel itself. There is no valid basis, in that situation, for excluding that vessel. The vessel meets all the standards that are required of it.

We don't have a basis to say, "No, you can't come in."

Mr. BURTON. I yield to Mr. Ryan.

Mr. RYAN. Thank you, Mr. Chairman, for yielding.

On that point—can you comment on where the Department of Justice is in all this? Does Justice take an active interest? What is their role? What is their involvement? Are they an interested participant, and an active participant in enforcing whatever regulations and legislation there are?

Commander BURGESS. I would say generally they are. There is a certain time period, of course, that it takes to develop all of the information. When we get that information we send it over to Justice Department, and they are——

Mr. BURTON. Well, you've got to have that information before you go to the company and say, "Hey, you owe us $2 million," don't you?

Commander BURGESS. Yes, sir.

Mr. BURTON. And when they say, "No, we don't owe it," or "We're going to take this to court," what other information do you need for Justice?

Commander BURGESS. No; we don't need any. We send it over to Justice, and Justice pursues the case.

Sometimes it takes 3 years—it's a long period of time. It's a long period of time.

Mr. BURTON. Yes; it is.

It would be helpful if we could have what portion of the $23 million is unidentified violators, and what portion is hung up in protracted litigation, and possibly some examples of the timespan it takes to get these things off the calendar and resolve them once they've been to Justice.

[The information follows:]

As of January 1, 1977, the United States had approximately 80 cases in litigation totaling over $26 million.

Although averages are sometimes misleading, it is fair to say that the vast majority of larger cases which were referred to Justice during the calendar year

1975 are just now coming to trial. This rather long delay should not be considered due to delays at the Justice Department but rather the extreme complexity of the larger cases. Oftentimes a major collison or stranding, is tied up in a limitation action with the pollution claim involving a small percentage of the total claims (i.e., personal injury, cargo and vessel loss). Even in the smaller cases, delays of 1 year or more while awaiting trial dates are not uncommon.

Mr. BURTON. One last question. Do you recommend increasing the liability limits?

Admiral BENKERT. I would say, yes, sir, because the administration bill which is being put in—the super fund bill—does do just that, yes, sir.

Mr. BURTON. Mr. Stangeland?

Mr. STANGELAND. Thank you, Mr. Chairman.

I'd like to go over these figures on this chart on my right and your left, and follow up some of the questions the chairman has been asking and get clear in my mind what the problem is here.

It shows fund charges, total from 1971 to 1976, of $36 million—but only assessed $13 million and only collected about $2 million. I would expect, then, that the balance between the $13 million and the $2 million are the funds that are in litigation. Would that be correct?

Commander BURGESS. Not all of them are, Mr. Stangeland, because in some cases, for instance, you might have a barge and a tug. There might be a spill that has a cleanup cost of $250,000. Well, that's well beyond the statutory liability.

The statute provides that—for instance, you have a dump barge. The dump barge wasn't at fault at all, but rather it was the tug. The statute provides that the $100 per gross ton is multiplied by the tonnage of the tug—so you have a very small tug.

There's no way—as long as we are unable to show willful misconduct. Now the statute does provide that we can make full recovery if there is willful misconduct by the operator or owner of the vessel. But as long as we don't have that situation, we're not going to be able to recover that.

The ability to develop that kind of information is very difficult. In many cases, it's just somebody making a navigational error and he runs the barge aground.

One of the reasons for the large difference in there is because the expenditure from the fund may be quite large, but the $100 per gross ton of that tug is going to be quite small. We're not ever going to—under the statute—be able to recover that difference.

Now obviously that represents some additional funds that are in litigation. No question about that.

And as Captain Schubert mentioned, there are some that are plain old mystery spills. We don't know where they came from.

Mr. STANGELAND. That's the reason then for the discrepancy between the fund charges and the net assessed. You could only assess the $100 per gross ton?

Captain SCHUBERT. Yes, sir, that is true.

I would like to point out that in fiscal year 1976 category there—well, it's actually carried over to 1977 but many of the charges were incurred in 1976. We had a barge aground on the St. Lawrence Seaway—which was one incident. The final cost of that incident was $8.6 million for cleanup. The liability of the barge was somewhere in the neighborhood of $840,000.

So those figures are skewed quite a bit just by that one incident.

Mr. STANGELAND. Then the liability limits have to be raised?

Captain SCHUBERT. Yes, sir. We feel that—particularly because of this barge problem—there should be a floor. That is included in the comprehensive fund legislation.

Mr. STANGELAND. OK. Then getting back to a previous statement that, I think counsel made there. In the case of a spill that's a pumping error, or a pumping spill, where it wasn't the fault of the vessel itself—the vessel was in conformity with what your rules and regulations require, but it's a personnel error—isn't that personnel as much a part of the qualifications of that vessel as anything else? If it's a personnel error, can't that vessel be contained until they correct their personnel problems?

Do you understand what I'm saying?

Admiral BENKERT. If I could answer a part of that, Mr. Stangeland—we can take some action against the individual involved, based on the error that he made in relation to qualification for doing the job. But I would venture to say that to prove that where a mistake or an error was made—as Commander Burgess has said—I don't believe that we can prove a willful type of violation which would knock out the limits of liability which are specific in the statute at the present time, sir.

Mr. STANGELAND. Well, I guess what I'm referring to, rather than anything willful, is an incompetent or an unqualified person working on that vessel whose fault it was that this inadvertent pumping of oil out occurred.

Now he's a part of the qualifications of that vessel to transport oil.

The vessel may be in perfect condition; but if the vessel is manned by incompetent personnel, you are still going to have accidents and spillages.

It would seem to me that if this was taken into account and that kind of vessel were precluded from coming into our ports, eventually we would get—what we were discussing in the last committee meeting—upgrading of personnel by foreign-flag ships and even our own.

Isn't that a fair assumption?

Captain SCHUBERT. Yes, sir.

Mr. BURTON. Excuse me. In other words, doesn't gross negligence cross over into the willful misconduct?

In other words, he's describing what would really be gross negligence.

Commander BURGESS. Well, it may, Mr. Chairman. It may. But it's difficult to come up with proof that would reach to the point of saying that it's willful misconduct.

Mr. BURTON. And there's no extra step between negligence and gross negligence?

Commander BURGESS. The statute doesn't talk in terms of negligence at all. The statute only says that if you spill it you're liable.

Mr. BURTON. And if you willfully spill it, you're more liable; but if you're totally grossly negligent, it's the same as if it was an accident and somebody happened to trip against the lever and let oil out.

Commander BURGESS. No. The difference is that if you can prove that it was willful misconduct, it's unlimited liability.

Mr. BURTON. I understand that. And I understand that it's, I can't remember the term, liability without fault.

In other words, it's liability without fault one way. It's willful the other; but there's nothing there that's really gross negligence on someone's part.

Commander BURGESS. Well, if there were, say—I think maybe what you're suggesting—some negligence, and maybe some higher limit if you are grossly negligent. Then maybe unlimited liability if you're willfully—but we don't have that. We only have the two on the end.

Captain SCHUBERT. Mr. Stangeland, if I may expand on that a little bit—one of the considerations that the hearing officer takes into account is the conduct of the employees, and whether the owner/operator of the vessel had responsibility in insuring that the employees either follow the correct procedures or whether they were properly qualified. That's one of the considerations he takes into account when he assesses the penalty. Of course, the maximum penalty that he can assess is $5,000. He is limited by that. But this is one of the factors that he considers in assessing a penalty.

Mr. STANGELAND. OK. Just going back a little further, under the President's proposed program here. This has to do with your reporting the ability or the competency or the adequacy of ships carrying oil. He talks about a tanker boarding program and a safety information system; and that the Coast Guard is going to board and examine each ship at least once yearly.

Then it goes on to say that ships which fail to comply with the safety environmental protection regulations that you establish would be denied access to ports.

This information—will this be public information? The histories of poor maintenance, accidents, and pollution violations of various tankers—will that be public information then?

Admiral BENKERT. As I mentioned earlier, Mr. Stangeland, our intention was to take a look at the—for example, the material that we have right now relative to examinations of vessels is, for that matter, in the public domain. We have not made any overt efforts at publication, on a broad scale, of specific problems with specific vessels.

We intend to do this in the future, within the legal rights that we can. And we intend, as the President's message has said, to board foreign-flag tankers—which as a matter of fact we are doing now and have been doing for some time on a far more extensive basis than we have in the past.

We intend, further, to pursue to the international area and, if necessary and desirable, nationally the concepts of—where necessary, where needed—higher standard development for personnel aboard foreign-flag vessels that operate in our waters.

Mr. STANGELAND. OK. Just one more question, Mr. Chairman.

If the various nations don't come to this international agreement—and as the President cites here, "We're going to do it ourselves, even if they don't"—what type of inspection would you conduct on a foreign-flag ship, as far as its qualifications? Would you look at the label that they've got or their own inspections and see that they've been inspected?

Admiral BENKERT. No, sir; we don't do that today either, Mr. Stangeland.

What we have been doing is, in particular with foreign-flag tankers, we have been examining and are examining their documentation, if you will, as far as their inspection record is concerned under their own flag state.

We are also looking at safety conditions aboard the vessel—particularly in relation to the handling of cargo in a safe and pollution-preventive manner.

We are also looking at these vessels for compliance with our regulations, which are over and above any internationally agreed-upon regulations, and of which we have a number in effect right now, particularly in the pollution-prevention area which we promulgated approximately—they went into effect 3 years ago, sir.

Our intention is, as I indicated here, to follow through on an examination of these vessels in every area where it's necessary to assure safety and pollution prevention.

Mr. Burton. Mr. Hightower?

Mr. Hightower. A moment ago you commented about you had increased the number of boardings of foreign-flag ships.

Admiral Benkert. Yes, sir.

Mr. Hightower. You testified the other day about the boarding of all ships by pilots, and that all foreign-flag ships have a pilot aboard as they enter the harbor, or the territorial waters of the United States; is that right?

Admiral Benkert. Yes, sir.

Mr. Hightower. What is the difference now? What boarding are you talking about when you say——

Admiral Benkert. I'm talking "boarding" in the sense I just discussed, sir, and nothing to do with pilots. This has to do with an examination of certain physical and existing aspects of the vessel itself—from a safety and environmental viewpoint.

Mr. Hightower. At what point, now, are you making these boardings?

Admiral Benkert. We are doing some of them at anchorages in our ports, some of them when the vessel comes into the dock.

Mr. Hightower. Is there an established procedure as to how often you check a particular vessel?

Admiral Benkert. There has not been, sir, in terms of foreign-flag tankers. In terms of U.S.-flag vesels, yes; there are established procedures.

Mr. Hightower. Is there a difference in your statutory responsibilities to foreign flag and to American tankers?

Admiral Benkert. Yes, sir, there is.

Mr. Hightower. Do you think that perhaps some statutory changes should be made as to your responsibilities for foreign-flag tankers?

Admiral Benkert. No, sir. I think, basically, as the President's message has indicated, we feel that the statutory authority that we presently have, coupled with the initiatives that have been announced by the President—incorporating, of course, what we have been doing and are doing today—that we have authority to approach the foreign-flag vessels where they are under our jurisdiction, fully.

Mr. HIGHTOWER. You mean in our territorial waters?

Admiral BENKERT. Yes, sir.

Mr. HIGHTOWER. And you have all the authority you need?

Admiral BENKERT. Yes, sir. We feel we have, in this respect of what we're talking about here; yes, sir.

Mr. HIGHTOWER. All right. In your inspection—do you apply the same standards of inspection that you do to American flags?

Admiral BENKERT. No, sir. we don't, because we are under our own statutes today. As an example, the Safety of Life at Sea Convention of 1960 is an international agreement which set up a number of standards for vessels of participating countries.

We have in our own country here regulations which have been promulgated under national statute, and under the authority of the SOLAS convention, which apply to U.S.-flag vessels.

Other countries, other flag states, have their regulations that they have applied to their vessels, under the authority of SOLAS and under the authority of their own national legislation.

When we became party to the SOLAS Convention of 1960, in essence we agreed to accept these foreign-flag vessels predicated on their evidence of compliance with this international agreement.

Now, when we board a foreign-flag vessel, we do this under several different authorities—one of them being an article, a regulation, in the international convention itself. Regulation 19 of the SOLAS convention, which authorizes us to board a foreign-flag vessel when it enters our jurisdiction to, in fact, ascertain if the vessel complies with the internationally agreed upon safety standards.

The convention tells us that only where there is an obvious departure, an obvious deficiency, an obvious problem with a vessel would we go beyond the internationally agreed upon safety standards.

However, by national legislation and subsequent regulation we have tacked on requirements over and above these basic international requirements already—today. We examine these vessels for basic compliance with the international agreement, and for anything that we add as a national requirement over and above the international agreement.

Mr. HIGHTOWER. Well, maybe I'm not understanding—but didn't I understand you to say that we require for our American flags more than we do for foreign flags?

Admiral BENKERT. Yes, sir, I did.

Mr. HIGHTOWER. Are we too strict in our requirements of our domestic fleet?

Admiral BENKERT. No, sir, we don't feel that we are.

Mr. HIGHTOWER. Then if we are not too strict, if we are merely adhering to the proper standards with American flags, then why is there a discrepancy between our American flags and our foreign flag requirements?

Admiral BENKERT. Sir, we have agreed internationally——

Mr. HIGHTOWER. But I understood you to say just now that in addition to our SOLAS agreement, we have tacked on others——

Admiral BENKERT. Yes, sir, that's what happened.

Mr. HIGHTOWER [continuing]. And so SOLAS does not prohibit us from tacking on others—making additional requirements?

Admiral BENKERT. That is true, sir.

Mr. HIGHTOWER. Still, even though we have tacked on additional requirements to SOLAS—we still have a double standard; and the foreign standard is not as strict as the domestic.

Admiral BENKERT. That depends whose vessels you're speaking of, sir, and you have to look at specific requirements.

If I might give you an example, sir. In our regulations—let's look at—if I can be very specific, looking at nuts and bolts, the sort of thing I'm driving at. In our regulations applicable to U.S.-flag vessels, we have a very extensive portion of our regulations dealing with electrical installations on vessels. These are very extensive, very specific. They have been developed over a period of years—and we find them very good.

A number of foreign countries have—they have electrical requirements for their vessels, but they're different than ours.

In some cases we don't feel that they're, perhaps, as stringent as ours. In some cases we feel that they're more stringent.

But there are differences, sir.

I think that this type of situation pervades in this entire field.

Mr. HIGHTOWER. That's not what I'm trying to zero in on. Not differences, but a different standard that is a lesser standard.

I can understand how standards can be different, but if they essentially meet the same requirements of safety—even though they may address it from a different standpoint.

Have you said that we have stricter, better, safety standards and requirements for our American flags than we have for foreign vessels coming in to these shores?

Admiral BENKERT. In some areas, yes, sir, we have stricter standards.

Mr. HIGHTOWER. Is this a fault? Do you think that we ought to have the same standards for domestic and for foreign?

Admiral BENKERT. Basically, yes, sir. We should have international agreement across the board on basic standards; yes, sir.

Mr. HIGHTOWER. And that in areas where we are requiring less of foreign flags, then we ought to require more—bring them up to the equivalent of our domestic fleet?

Admiral BENKERT. I think in that field, sir, the first order of business is to proceed to the international area through the auspices of IMCO—which we have been doing for some 20 years—to, where we feel that something should be done in a safety area, that we should push this through to the best of our ability.

Mr. Hightower. Don't we have the authority to add additional standards?

Admiral Benkert. Oh, yes, sir. We have the authority; but we also have agreed, internationally, by law, by treaty, to accept certain international standards today sir—and particularly in the Safety of Life at Sea Convention.

Mr. Hightower. Oh, I see. If we are to try to bring both fleets up to the same level of safety, then we will have to secure some amendments to our SOLAS agreement?

Admiral Benkert. No; I don't think so.

We don't need a change to the SOLAS agreement, sir. What we need are—if we want to upgrade certain areas of the SOLAS agreement, we need to make certain changes in various regulations that are in SOLAS.

And we have done this. For example, the 1960 SOLAS Convention——

Mr. Hightower. Does SOLAS provide for recurring meetings and continual re-examination of standards?

Admiral Benkert. Yes, it does, sir.

Mr. Hightower. When will the next meeting be held in this area?

Admiral Benkert. Sir, we have subcommittee meetings leading toward additional items in the basic SOLAS convention. Regulation changes—we have these ongoing throughout the year in different areas.

We have subcommittees working on stability, subdivision, training and watchkeeping—and a large gamut, all in the area if safety of vessels.

Mr. Hightower. Are the American delegates seeking to improve the standards to at least the par of what we now require of our domestic fleet?

Admiral Benkert. We have continually been seeking an upgrading of international standards; yes, sir.

Mr. Hightower. I yield to Mr. Moffett.

Mr. Moffett. Perhaps, Mr. Chairman, it would be a good idea if we could have a schedule of those.

Are those actual meetings that you're talking about?

Admiral Benkert. Yes, sir.

Mr. Moffett. Could you provide for the committee a schedule of——

Admiral Benkert. We can provide you with a full dossier of all the meetings of the SOLAS subcommittees, the Maritime Safety Committee——

Mr. Moffett. With sufficient notice before they take place?

Admiral Benkert. They are published, sir, in the Federal Register—and we can furnish them to you, yes, sir.

[The information follows:]

Enclosure 1 is IMCO document PROG/59 which is the program of all meetings for 1977. Those marked with * deal mainly with improvements to the Safety Conventions and those marked with ** relate to prevention of pollution. There is some overlap into both areas in each of the subcommittees.

PROGRAMME OF MEETINGS

IMCO

(January 1–December 31, 1977)

January 10–14—Preparatory Committee on Maritime Satellites (1st session).	IMCO.
January 17–21*—Subcommittee on the carriage of dangerous goods (27th session).	IMCO.
January 24–28*—Subcommittee on bulk chemicals (2d session).	IMCO.
January 31–February 4—Working group to study proposals for amending) the IMCO convention.	IMCO.
February 7–11*—Subcommittee on subdivision, stability and load lines (20th session).	IMCO.
February 14–18*—Subcommittee on safety of navigation (19th session).	IMCO.
February 21–25*—Subcommittee on radio-communications (17th session).	IMCO.
March 7–April 2*—International conference on safety of fishing vessels.	IMCO.
April 12–15—Familitation committee (11th session)	IMCO.
April 18–22*—Maritime safety committee (36th session)	IMCO.
April 25–May 6—Legal committee (32d session)	IMCO.
May 9–13*—Group of experts on search and rescue (5th session).	IMCO.
May 18–19—Committee on technical cooperation (14th session).	IMCO.
May 20—Pre-Council budgetary working group	IMCO.
May 23–27—Council (38th session)	IMCO.
June 13–17*—Joint IMCO/ILO committee on trading (5th session).	IMCO.
June 20–24**—Marine environment protection committee (7th session).	Torremolinos.
June 27–July 1*—Subcommittee on life-saving appliances (11th session).	Torremolinos.
July 4–8*—Subcommittee on fire protection (20th session)	IMCO.
July 11–15*—Subcommittee on containers and cargoes (18th session).	IMCO.
July 25–29*—Subcommittee on ship design and equipment (17th session).	IMCO.
September 5–9*—Subcommittee on safety of navigation (20th session).	IMCO.
September 12–16*—Subcommittee on radio communications (18th session).	IMCO.
September 19–23*—Subcommittee on the carriage of dangerous goods (28th session).	IMCO.
September 26–30**—Second consultative meeting of contracting parties to the London subdumping convention.	IMCO.
October 3–7—Legal committee (33d session)	IMCO.
October 10–14—Legal committee (34th session)	IMCO.
October 17–21**—Subcommittee on bulk chemicals (3d session).	IMCO.
October 24–28*—Subcommittee on subdivision, stability and load lines (21st session).	IMCO.
November 7–18**—Assembly (10th session)	Cunard International Hotel.
November 28–December 2*—Subcommittee on standards of training and watchkeeping (10th session).	IMCO.
December 5–9**—Marine environment protection committee (8th session).	IMCO.
December 12–16*—Maritime safety committee (37th session)	IMCO.

Mr. HIGHTOWER. One more question, Mr. Chairman.

What I'm really trying to ask, Admiral—if there is any statutory need. If you see anything that we, Congress, can do to improve the safety requirements that you impose on foreign flags? Do you need any more statutory authority; or could you, by regulation, improve the safety requirements of foreign vessels by imposition of additional regulations—even under SOLAS as it now exists?

Admiral BENKERT. Under our existing statute, sir, we can improve, or we can change, or we can add on to existing international agreements, such as SOLAS, in a regulatory form under our existing statutes. Right now.

Mr. HIGHTOWER. One more question, Mr. Chairman. I know I've taken too much time, but this is my final question.

The delegation to SOLAS from the United States—is it composed of people from the Merchant Marine fleet—Would you just give us an outline, please, of who represents the United States in these meetings?

Admiral BENKERT. The major representation of the United States at the meetings under the auspices of IMCO, looking toward safety of life at sea, SOLAS convention, is from government agencies. The Coast Guard happens, in most cases, to lead these delegations under the authority of the State Department.

We have on our delegations representatives of other government agencies such as the Maritime Administration, in some cases the Department of Justice where we're dealing with the legal aspects. We have representatives of maritime labor. We have representatives of the maritime industry from the ownership side. We have a very extensive cross-section of representation, sir, in all of our work with the various subcommittees and committees of IMCO that look toward the development of these international conventions—such as the SOLAS convention.

Mr. HIGHTOWER. And the position taken by the American delegation is a consensus of these groups?

Admiral BENKERT. Basically, yes, sir. And I must say in many cases, due to the responsibility of the Coast Guard for safety of life at sea under our statute, the leadership of most of these efforts falls within our agency.

Mr. HIGHTOWER. Thank you, Mr. Chairman.

Mr. BURTON. Mr. Moffett?

Mr. MOFFETT. Thank you, Mr. Chairman.

I am still a little bit confused about what you actually have authority to do.

Now if a vessel has certain violations, and you determine that—under your current authority can you say that that vessel cannot enter U.S. waters?

Admiral BENKERT. Once we have boarded her, sir—and the only place we can board her legally is within our jurisdictional waters. Once we have boarded that vessel, if we feel that the vessel is unsafe to proceed within our waters, we can forbid her from entering our port farther, sir.

Mr. MOFFETT. But if you know beforehand—and I assume you do—that the vessel is on its way to U.S. waters, and you know that the vessel has certain violations——

Admiral BENKERT. We cannot base a prohibition, sir, under the law right now—if we have a vessel 100 miles offshore, and we have no indication of her condition or anything else at that particular time, we cannot do anything with that vessel until she comes within our jurisdictional waters.

Mr. MOFFETT. You're saying that's under your current authority; right?

Admiral BENKERT. Yes, sir.

Mr. MOFFETT. Are you saying that under your current authority you can't have a list of tankers which are not allowed in U.S. waters?

Admiral BENKERT. Yes; I am, sir—except that if we look at a vessel today while it's in our waters, and we find that that vessel has certain deficiencies, we can tell that vessel, "You get these deficiencies corrected before you come back into our port."

When that vessel shows up the next time, as soon as she gets within our jurisdiction we will board that vessel and if the deficiencies are not corrected we will not permit her to proceed farther and to handle cargo or do anything else.

Mr. MOFFETT. Well, where in your authority does it say that you actually have to have an onboard inspection?

Admiral BENKERT. Well, sir, we cannot really determine conditions of a vessel unless you have some indication of what they are.

For example, our authority, to my mind—and I think our lawyers will back this up—does not permit us to arbitrarily tell a vessel that is on the high seas that she cannot come into our waters, unless we have some basis for specifically doing this, sir. And the basis would not be, for example, a record that she was in a collision 6 months before, or that she had a problem with machinery 3 months before or something like that.

Mr. MOFFETT. Well, what if we had an *Argo Merchant* example. Let's suppose that vessel had a terrible record of spills—spilling oil all over the globe, for example.

Are you saying that before you could protect our shorelines against the possibility of a spill from that vessel that you have to have an onboard inspection?

Admiral BENKERT. Yes, sir, unless we had looked at that vessel, say, during her previous voyage to us and told her, "Don't come back until these areas are corrected"—in which case we would still have to look at that vessel.

As a matter of fact, the *Argo Merchant* is a good example of this. This vessel had some previous evidence of pollution prevention regulation violation in our waters. Our intention was that as soon as that vessel came within our jurisdiction—the entry to the Boston harbor area—to board that vessel, to not permit her to enter fully into the port until we had examined her condition and the correction of deficiencies that had been required on the vessel.

Mr. MOFFETT. OK.

The thing that bothers me is that, according to what Mr. McKenzie told us the other day there is evidence available—there is data available to show when a ship really has a horrible record, even outside U.S. waters.

What bothered me the other day—unless I was not reading you correctly—was that you don't even have that information with regard to what happens outside of U.S. waters, and therefore you can't really give a portrait to us of which ships are accident prone and which aren't, except as they relate to accidents that they've had within U.S. waters.

Admiral BENKERT. I think, Mr. Moffett, I said earlier that we realize that we have not done this in the past, and that we were prepared to make a far more extensive effort in this area—to obtain records on the vessels.

But I would like to say this, sir—that just because a vessel has a record in Lloyd's, in the classification society records, or somewhere else of having had casualties, of having had machinery problems, or perhaps other things—all types of which are included in this type of dossier on a vessel—this does not necessarily mean that the vessel, at the time that she is operating and going to enter our waters, that she is either in bad shape, or improperly manned, or anything else. This is evidence, in fact, of the previous record of the vessel.

We could take our own vessels, and if the vessel is 20 to 25 years old—Coast Guard cutters, for example, are no different. We can take a listing of our own vessels—where we have had fire on the vessel, where the vessel has been in a collision, where we have had machinery problems on the vessel—but this does not necessarily mean that just arbitrarily we can forbid that vessel from coming into our ports.

We think that—and the law requires us, in fact, to have something substantive in order to follow the procedure——

Mr. MOFFETT. But, maybe what Mr. Hightower was getting at was the question of the burden. Maybe we need a situation where the burden is placed upon the vessel to show that its past record is not, in fact, going to produce problems—or likely to produce problems now, because they have corrected the situation.

Do you think that would help?

Why should they be presumed, in a sense, to have corrected the problem before you look at the ship? Do you know what I mean?

Admiral BENKERT. Well, on the other hand, sir, why should they be presumed to be bad because of something which happened 1 year, 2 years, or 4 years ago?

Mr. MOFFETT. Only because maybe some people are not willing to take a chance with our resources, of having a spill.

If you have a ship that has done a lot of damage around the globe, it just seems to me that you ought to be very careful about allowing that ship in.

I don't see how the presumption that the situation has been corrected would be a fair one.

Admiral BENKERT. I don't make that presumption, Mr. Moffett. The presumption that I make is simply that—we can board a vessel; and by boarding a vessel we can make a determination of conditions aboard that vessel.

At the present time, of course, statutorily, legally, that's what we can do.

If we have evidence of vessel problems we board the vessel. We have done this with numerous vessels of all types—including U.S.-flag vessels.

Mr. MOFFETT. Are they given priority, as far as your attention is concerned?

Admiral BENKERT. Oh, yes, sir. If we have a vessel which we have some problems with, this is very definitely given priority as far as our examination of that vessel. Yes, sir.

Mr. MOFFETT. OK. But up until now the only way that you've known—the only way you could pick those possible problem ships out is whether they have had trouble in U.S. waters?

Admiral BENKERT. Not entirely, sir.

Mr. MOFFETT. Not entirely?

Admiral BENKERT. Not entirely. Although, as I've said before, we have not kept the dossier to the full extent on——

Mr. MOFFETT. OK. I don't want to belabor that point.

On your chart here you have a total of a little over $10 million for a 5-year period for the fines and penalties assessed, I note. That just doesn't strike me as very much money.

Admiral BENKERT. There's a $5,000 limit, sir, in the law, on an individual——

Mr. MOFFETT. I was about to come to that.

I wonder—does the Coast Guard consider itself to be in the business of assessing damage from spills?

Captain SCHUBERT. No, sir, that—are you speaking of environmental damage, economic damage—or what type of damage?

Mr. MOFFETT. Total.

Captain SCHUBERT. Well, the environmental damage responsibility is delegated to the Environmental Protection Agency, and also to NOAA under the national contingency plan.

As far as economic damage—that is something that is usually settled in the court, and is a matter between the parties involved.

We don't have any responsibility for assessing damages, per se.

Mr. MOFFETT. Well, who brings all the information together to try and estimate a total cost incurred as the result of a spill, for example?

Captain SCHUBERT. Well, we assess the direct cost for cleaning up.

For trying to put a value on bird life destroyed, or natural resources that are damaged—that is not part of our function.

The figures you see here are direct cost, either collected or laid out for the direct cleanup operation—or for the assessment that results.

As far as the cost of damages—I would imagine that this is a figure that is assessed from various sources put together.

Mr. MOFFETT. Who does that; do you know?

Captain SCHUBERT. No one that I know of.

Mr. MOFFETT. Nobody pulls that together to try and assess what the total damage is—damage to the economy, damage to the environment?

Captain SCHUBERT. No, sir, not at the present time.

Admiral BENKERT. Mr. Moffett?

Mr. MOFFETT. Yes, Admiral?

Admiral BENKERT. Excuse me for interrupting, but I would just like to say—and maybe this is a piece of philosophy; I don't know. But I think it's very important.

One of the big problems with the whole concept of oilspills has been a determination of the effect of spillage of oil—a true determination of this effect. This has been, sir, one of the biggest problems in trying, for example, to develop—as we are required to do—environmental impact assessments coupled with cost and economic analysis of regulatory activities.

How much money are you willing to spend to save x number of barrels of oil from being spilled? Primarily because nobody has been able to put a figure on this end result—and I think that's really what you're saying, sort of, sir.

Mr. MOFFETT. Well, the conclusion that we're drawing here is correct then—that there is no aggregate total figure that is brought together? Is that correct, that you know of?

Admiral BENKERT. That's true.

Mr. MOFFETT. Maybe I'm missing something here—but how do we begin to determine liability, and what good are liability figures in a piece of legislation?

Admiral BENKERT. You determine it, sir, I think on actual money spent in physical operation accomplished to provide the cleanup.

Mr. MOFFETT. All right. But then if we're talking about liability from damage to a spill then, that really doesn't have much to do with it, does it? I mean it really doesn't begin to tell the story if you're talking about damage to marine life, losses to fishermen, and the like.

Commander BURGESS. There's no provision in the law. The law merely provides for recovery by the United States, and sets forth provisions which would allow, in certain circumstances, a discharger who was without fault, and who has cleaned up—allows him to make a recovery in the court of claims against the United States.

That particular—the FWPCA, relative to the civil penalty end of it, and the cleanup costs, or removal costs, does not address itself to damages which are sustained by nongovernmental parties; except insofar as I was mentioning—that there is a means of shifting the cost to somebody else. But it addresses itself to the actual cost of removal activities.

Now there are, of course, a number of statutes—I guess there's a hearing on it this morning—that would deal with the bigger picture, the picture that you're talking about. The damage to the private man. How does he get—and who does he go to? Presently his remedy is he goes and sues the discharger.

Mr. MOFFETT. How about the damge to the ocean?

Commander BURGESS. Well, I guess the question is who has the interest in that? You know, when you say, "damage to ocean" are you talking about the fish? Do we really have an interest in the fish? That's not an easy problem.

Mr. MOFFETT. Not the fish from an economic point of view, but the ocean as an integral part of the environment.

Commander BURGESS. Well, I think the question would be who woud be in a position to advance—to say that that is my interest, and I am protecting my interest.

Mr. MOFFETT. In U.S. waters it would be the Government, would it not?

Commander BURGESS. Well, the Government—when you're talking about the oceans themselves, it's hard to put a figure on that. Now in terms of resources; yes. We can put some kind of a figure on that: and that's a little bit difficult.

In connection, for instance, with the *Argo Merchant* case—one of the questions was, was any of the oil on the ocean floor on the Continental Shelf? Were any of the creatures on the Continental Shelf affected?

Well, we weren't really sure. You know—we're trying to find that out now.

Whose interest is that?

It's probably the United States; but when you get inside and out of the waters it probably belongs to the State and maybe to the fishermen.

It's a very cloudy area, with a lot of legal problems in it.

Mr. MOFFETT. OK. Thank you.

Thank you, Mr. Chairman.

Mr. BURTON. Mr. Walker?

Mr. WALKER. I did come in late, but if I understand correctly what I've heard here so far what you're going to begin doing now is taking assessments of ships on a worldwide basis; is that right? You're going to begin keeping that kind of assessment in your file as to pollution damage done? The whole business of a ship's past record is now going to be in your file for worldwide performance?

Admiral BENKERT. We are going to attempt, as rapidly as we can, sir, to obtain information, to itemize it in the areas that are pertinent on foreign-flag vessels and what happens to them in areas other than U.S. waters; yes, sir.

Mr. WALKER. Is that going to be for your in-house use, or are you going to disseminate that to people who are going to be in the business of chartering ships?

Admiral BENKERT. I would probably have to defer to the lawyers on that, sir—except that I would assume, as most of our other records are, when we keep records as a government agency they are subject to the Freedom of Information Act; and they are, in fact, public property. I would venture to say that we would be in a position to put forth some kind of publication of this information within our authority, sir.

Mr. WALKER. I think that's an essential element here, because I would hope that charterers, to get this kind of information, are not going to have to go through freedom of information procedures in order to get it from you.

What is the use in the Coast Guard having all this information available if it doesn't provide it to the people who are going to be chartering these ships and perhaps bringing them into our waters?

Admiral BENKERT. We would anticipate people, normally, as we do now, sir, asking us for this information; which they do on a continuing basis right now.

We will certainly look at how we can publish this type of information, and in what format, and how it would be best to do this, sir.

Mr. WALKER. It seems to me that one of the things that could come out of this, perhaps—I understand your position on this, that you probably should not judge a ship based upon its past performance, and just say guilty until proven innocent, is basically your position. But on the other hand, I think that charterers should know that they may be getting a bad ship; and perhaps insurance rates and this sort of thing should begin to reflect a ship's past performance. And a charterer should know that if he is going to bring that ship into our coastal waters, that he stands to have to pay a huge insurance premium, or some such thing, in order to bring that ship in because of that past performance record.

That is not, in law, as I understand it, something in which we're presuming guilt, necessarily; we're just judging on past performance.

If your information is made available to charterers on a regular basis, then as soon as they go to charter a ship they can look immediately and find out what the performance record has been—it seems to me that then we could find corrective measures, maybe, within the private sector that wouldn't involve anything more than the inspections that you're doing on a regular basis.

Does that seem reasonable to you?

Admiral BENKERT. Yes, sir, it does—and we intend to, as I say, do this sort of thing insofar as the foreign-flag vessels are concerned.

The only thing I would say in addition to that, sir, is that a good part of this information right now, of course, is available to prospective charterers of vessels at the present time if they want to look for it.

Mr. BURTON. If they have the capability.

Admiral BENKERT. Yes, sir. They have the capability right now of obtaining a good portion of this information if they want it.

Mr. WALKER. Well, but wouldn't it have more force—it would seem to me that what we would be creating here is kind of a pseudo blacklist. Now wouldn't that have more force if, for instance, the Coast Guard was providing that kind of information on the ships? You know, there could be a response based on official information.

It seems to me that all the sources that are available to them now are essentially unofficial sources. Am I correct? Whether they go to Lloyd's of London, or whether they go to McKenzie, or whatever——

Admiral BENKERT. Well, they can read them—some of the big oil companies do this right now, sir—they keep their own records, from Lloyd's and from classification society information if they have one—a vessel's past record, in the process of arranging for charters of them. But I think what you say is very true. If we were to do this in the manner that you describe, this would have some validity to it perhaps—and it certainly would be from a government agency, you might say.

Mr. WALKER. Let me ask you this. In the records that you have kept for our coastal waters—where do the spills result? Do they result from the large companies that are doing this kind of in-depth work, or is most of it the small charterers——

Admiral BENKERT. Most of the spills—it's hard to pin it down to the question you specifically ask. It's very difficult. But most of the spills that occur within our waters are the result of handling of cargo. In other words, when the vessel is at the dock—when you're transferring cargo.

We have—and I think that's probably what Captain Schubert is looking at here. We have, in our system of collating and maintaining statistics on oil spills in our waters, a very good rundown on the types of vessels, where they occur, the types of spills, and so forth. A lot of information can be peeled out from this.

I think we did enter this information in the record, which is very voluminous—records of oil spills in our waters.

Mr. WALKER. But am I correct that those spills are not the ones which cause the greatest amount of environmental damage—that those are the ones that are easier to contain?

Admiral BENKERT. Well, I wouldn't say that they're necessarily easier to contain, sir. I would simply say that the majority of them fall in this catgory.

Mr. Walker. Well, but part of the question here—and I think at least the question on the public mind is those spills which are causing a lot of environmental damage and a lot of economic damage.

Now, you know, the fact that most of the spills take place kind of at the dock, and transfer, and this kind of thing may be good for record-keeping purposes, but I think it's also important that we recognize the kinds of hings that we're trying to treat with the programs that are being developed at a Federal level.

It seems to me that the ones that we're trying to get at are the ones that are causing a major environmental and economic impact.

Admiral Benkert. Well, that's true, sir—except that one of the problems with oil spills has been that nobody has been really able to pin down, and I think this was mentioned before, the long-term effect of these smaller spills in our waters—which happen fairly frequently.

The big spill, for example, which occurs which gets major publicity, if you will, because of its size and the circumstances of the case, in a particular case, may really have no long lasting effect whatsoever, or even a short-term effect as far as environmental damage is concerned.

So that we feel it's important to—and this is why we, in our regulations, to date have homed in on this transfer process. We have also approached the problem from the point of view of the vessel's design, construction, and a number of other aspects that I'm sure you're familiar with.

Mr. Walker. But I'm also aware that there's some information that has been recently developed that shows that the long-term effect of oil seepage out of natural wells in the sea, or natural holes in the sea, and so on, has had very minimal effect on the marine life. As a matter of fact they have adapted to it, so——

Admiral Benkert. Yes, sir.

Mr. Walker. There are studies all over the place on this thing, but the fact that it seems to me that we're treating a problem that the public recognizes is a problem here—and that is those spills which cause major damage to the beaches, to the birds, to the fish, and whatever.

What I'm getting at is what—do we have any figures that show which companies are most responsible for that kind of spill? Is it the small charterer who is bringing in the ship, or is it the large companies that are taking the precautions——

Admiral Benkert. We would have to sort that out from our figures, sir, to determine whether the source of a specific amount of oil, or what the percentages were of oil that was spilled—whether this was a result of chartered vessels or privately owned and operated by the owner, and so forth.

This would be very difficult to sort out, sir.

Mr. Walker. Well, in a sense it's rather important, though. Texaco and Exxon, when they testified the other day, gave a rather elaborate checklist to us that they use when they charter ships.

Now if that elaborate checklist is not very beneficial in terms of preventing spills, then the question becomes how much of the information that you're going to develop is going to be worthwhile?

They are obviously taking—if their testimony represents their position on this—they are obviously taking a lot of precautions right now to try to assure that they have good ships coming into our waters.

Admiral BENKERT. Yes, sir.

Mr. WALKER. I guess what I'm trying to develop is who's bringing in the bad ships? And how do we prevent that?

Admiral BENKERT. Well, I think the way we prevent it, sir, if I may say so, is to try and attack the ships themselves—by regulation, by inspection, by examination, by a close appraisal of the vessels. I think this is our true answer to attacking this problem.

But the other part of this thing, in my opinion, is that again the majority of the spills that we have had—have been either personnel error or some type of equipment failure, this sort of thing, particularly in the handling of cargo within our ports.

We are making, and have been making, a very strenuous effort to eliminate this. We think we are doing a pretty good job on this.

If you look just at statistics, they are kind of unfortunate today in one respect, if I may say so. We have only had a record for about 3 years—good, solid record of pollution in our waters from oil. We didn't keep any records; there was no requirement for that prior to that time, and we didn't have the statutes prior to that time.

Our records are, I think, a little deceptive in that we show an increase in the number of oil spills—but the reason for this is that the reporting system went into effect with the implementation of the Federal Water Pollution Control Act. We had no reports before that time.

Now we get reports, and we think we get a very high percentage of the spills that are reported.

But the average spill we get in the country is a rather small amount. Fred might have that at his fingertips here. I think it would be of interest, sir.

Captain SCHUBERT. Three-quarters of the spills that we have reported are 100 gallons or less. As you go up in size the number in each size category gets much smaller.

Mr. WALKER. But those are not the kind of spills that we're talking about that are causing major damage.

Am I correct in that? I'm starting with that assumption. I know you say there may be long-term effects from it, but—you know, there may be as many studies as there are effects.

I'm trying to get at the ships that are breaking up off our coast and are causing major spills that wash up a lot of oil and tar on our beaches. Those are the ones, it seems to me, we are attempting to control with what we're doing.

Admiral BENKERT. If I may say so, sir, the major problem on our coast, as far as oil coming up on our coast, has been not the accidental pollution of the oceans from accidents but the intentional pollution of the oceans from tank cleaning and from dirty ballasts.

Now we are attacking that problem very strongly through design, construction, and operational requirements, not only here in the United States but internationally.

Now our other approach here—and I think it follows exactly what you're saying——

Mr. WALKER. Excuse me just a moment; but isn't some of that, if I gathered from what Mr. McKenzie was saying the other day, isn't some of that also the result of some rather sloppy operational procedures aboard ships?

Admiral BENKERT. I would call it sloppy, sir, in the sense that it does involve, in the tank cleaning processes and so forth, the deliberate pollution of the ocean from tank cleaning with the combination of salt water and oil to be pumped over the side.

This has been approached very strongly internationally. For example, you have a requirement that—and we are enforcing this—we are putting some plane patrols out. We are doing all sorts of things to eliminate this within 50 miles of our shores; specifically where there is a prohibition against any oil spillage from deliberate pollution—from tank cleaning or dumping of dirty ballast.

I think that the majority of oil that we get on our coast comes from this source—which we have made and are making a very strenuous effort to eliminate, sir.

Mr. WALKER. Thank you, Mr. Chairman.

Mr. BURTON. Here's what I would like to get—and I can't believe that it's that difficult—from your point of view I guess that it doesn't cause the major portion of the pollution of our beaches and waterways; but the people that we represent are very concerned about the *Argo Merchant* type of situation.

Dealing with those types of disasters, it would be of interest, I believe, to Mr. Walker, myself, and the other members of the subcommittee if you could tell us whether those types of casualties occurred on ships that were chartered by a lot of small utility districts, or whatever, as opposed to the American Petroleum Institute members that have available to them all that type of information.

We're talking about those types of disasters, be they not that many but certainly of a spectacular nature.

Having that information might make it possible to determine that casualty information would be helpful to someone; or that it wouldn't really matter because even though the ship was the greatest ship in the world, no one could have known that the chief engineer was going to get drunk and take a torch and split the ship in two.

That type of information, I think, would be fairly easy to obtain because there aren't that many ships.

Maybe it will tell us that whatever information the charterer could have had wouldn't have mattered anyway, or maybe it might have.

Mr. WALKER. Thank you, Mr. Chairman. That's exactly what I was getting at.

[The information follows:]

The Coast Guard does not maintain a listing of which vessels are chartered by members of the American Petroleum Institute. Therefore no comparative analysis of the vessels chartered by the "mom and pop utility districts" versus the American Petroleum Institute can be made with respect to which has more vessels involved in major casualties like the *Argo Merchant* disaster.

The Coast Guard does maintain casualty, violation and pollution records which are available to the public on U.S. vessels on any waters and foreign flag vessels upon the navigable waters of the United States. If a charterer questioned the safety record of a particular vessel, a request for this information should be made to the Coast Guard. The charterer would then be provided all of the Coast Guard records regarding the vessel's casualty, violation and pollution records. The charter would be able to analyze and evaluate the vessel's safety record for his purposes.

Mr. Burton. Second, I would like a list of how many of the regulations of SOLAS or other IMCO agreements have been upgraded and adopted.

You say that we've continually been working in the international forum to try to have an international upgrading. I'm one of those who feel that we can't wait all that much for international upgrading. It's the feeling of many that the direction of the President's message was that we're going to start moving ahead unilaterally, with the great hope everyone is going to join us—but that we're going to do the best we can with unilateral action.

I would be interested in starting at the inception of SOLAS or other IMCO-based agreements. How many upgrading regulations that we thought were a good idea have been internationally adopted?

As I understand it, once an agreement is internationally adopted, we take the certificate of the government—certificate issuing office of say, Liberia—at face value unless there is reasonable and probable cause, as we say in criminal law, to believe that we have to look beyond that certificate.

Maybe, again, information on how many misadventures they've had in foreign waters might be part of that reasonable and probable cause.

In other words, even though they had a great certificate from the country of their origin—their flag state, the fact that they had 17 mishaps in the Mediterranean Sea, might be reasonable cause in and of itself to look behind the certificate of the issuing country, and not have to see something.

You know, they've got a great certificate, but we end up seeing that they're leaking oil all over the globe.

That might be proper and helpful.

[The information follows:]

Enclosure 1 gives the status of IMCO related International Conventions and amendments thereto.

Enclosure 2 lists IMCO resolutions related to maritime safety and to prevention of pollution from ships. These not only cover the amendments to the Conventions but also those Codes and recommendations which, although not mandatory, are adopted by IMCO for implementation by member governments in their national regulations.

STATUS OF IMCO RELATED INTERNATIONAL CONVENTIONS

[Update: June 1, 1977, 6 mo intervals/or when changes occur G-AIA/83]

Convention	President to Senate	Senate to President	Deposited with IMCO	In force for United States	In force	Number of countries deposited	Number of countries required	Status of enabling legislation
Safety of Life at Sea (SOLAS) 1960				May 26, 1965	1965	96		Not required, see E.O. 11239 and E.O. 11382.
Amendments:								
1966 (fire safety)			Apr. 7, 1967			45	64	Do.
1967 (fire safety and radio)			June 10, 1968			34	64	Do.
1968 (navigation equipment)			Nov. 22, 1972			35	64	Do.
1969 (equipment, surveys, and radio)			do			24	64	Do.
1971 (radio and routing)			Nov. 16, 1973			12	64	Do.
1973:								
Editorial—Ch. II, III, IV, and V			Feb. 3, 1976			4		
Revision ch. VI: Grain			do			3		
Safety of Life at Sea (SOLAS) 1974	Aug. 31, 1976					2	(1)	Drafted by Coast Guard.
Collision regulations:								
1960				Sept. 1, 1965	1965			33 U.S.C. 1051 et seq. H.R. 5446/S. 1348.
1972		Oct. 28, 1975	Nov. 23, 1976	July 15, 1977		[2] 30	(3)	
Oil Pollution, 1954				Dec. 8, 1961	1958	58		33 U.S.C. 1001–1015, Public Law 87–167.
Amendments:								
1962 (complete rewrite)				May 18, 1967	1967	58		33 U.S.C. 1001–1015, Public Law 89–551.
1969 (eliminate prohibited zones, allows limited discharge and misc.).			Oct. 17, 1973			35	39	Enacted Oct. 4, 1973, Public Law 93–119.
1971 (tanker tank size)	May 5, 1972					19	39	Congressional action pending.
1971 (Great Barrier Reef)	do					18	39	

Facilitation, 1965				May 16, 1967	1967	42		Not required.
Amendments: 1973 (article VII)			Apr. 2, 1975			19	28	
Load line, 1966				July 21, 1968	1968	84		
1971 (editorial clarifications)			Nov. 16, 1973			20	56	Public Law 93-115.
1975						5	56	
Tonnage measurement, 1969	June 15, 1972					[4] 30	(5)	Drafted by Congress.
Intervention, 1969 (high seas, oil pollution casualties).			Feb. 21, 1974	May 6, 1975	1975	30	15	Public Law 93-248.
Civil liability, 1969 oil pollution casualties	May 20, 1970	(6)	(6)	(6)	June 19, 1975	29	[7] 8	Before House as super fund bill (H.R. 9294 and S. 2162).
Protocol, 1976								Do.
Compensation fund, 1971 oil pollution casualties	May 5, 1972					10	[8] 8	
Protocol, 1976							[9] 8	
Safe containers (Geneva, 1972)	Nov. 14, 1973				Sept. 6, 1977	12	10	Legislation drafted by Coast Guard/Department of Transportation.
Customs Convention on Containers (Geneva, 1972).	Nov. 14, 1973	Oct. 8, 1976 [9]			Dec. 6, 1975	13	5	Not Coast Guard.
International Pollution from Ships, 1973						3	(10)	Drafted by Coast Guard.
Intervention, 1973 (high seas other than oil)						2	15	
Ocean Dumping (London, 1972) (non-IMCO)				Aug. 30, 1975	1975	29		Public Law 93-254.

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[1] 25 and 50 percent world ton.
[2] 68 percent.
[3] 15 and 65 percent world ton.
[4] 56 percent.
[5] 25 and 65 percent world ton.
[6] To be considered as package by Senate.
[7] 5 at 1,000,000 ton tankers.
[8] Also must receive 750,000,000 tons contributing oil and sign CL.
[9] President signed ratification.
[10] 15 and 50 percent world ton.

AMENDMENTS TO SOLAS 1960 THRU 6TH ASSY

CHAPTER I—GENERAL PROVISIONS

Part A—Application, Definitions, etc.—Amendment to regulation 4; A.122(V).
Part B—Surveys and Certificates.—Amendment to regulations 7, 8, 9; A.174 (VI).

CHAPTER II—CONSTRUCTION

Part A—General.—Amendment to regulation 1; A.122(V).
Part C—Machinery and Electrical Installations.—Amendment to regulation 27; A.108(ES.III).
Part D—Fire Protection.—Amendment to regulations 38, 50, 54; A.108(ES.III).
Part E—Fire Detection and Extinction in Passenger Ships and Cargo Ships.—Amendment to regulation 63; A.108(ES.III). Amendment to regulation 64; A.122(V). Amendment to regulation 65; A.108(ES.III) and A.122(V).
Part F—General Fire Precautions.—Amendment to regulation 70; A.122(V).
Part G—Special Fire Safety Measures for Passenger Ships (Addition); Regs. 71–91, A.108ES.III).
Part H—Fire Protection, Fire Detection and Fire Extinction in Passenger Ships (Addition); Regs. 92–123. A.122(V).

CHAPTER III—LIFE-SAVING APPLIANCES, ETC.

Part A—General.—Amendment to regulations 21 and 22; A.174(VI). Amendment to regulations 25 and 26; A.122(V).
Part C—Cargo Ships only.—Amendment to regulation 35; A.122(V).

CHAPTER IV—RADIOTELEGRAPHY AND RADIOTELEPHONY

Part A—Application and Definitions.—Amendment to regulation 2; A.122(V) and A.174(VI).
Part B—Watches.—Addition of a new regulation 7 bis; A.122(V).
Part C—Technical Requirements.—Amendment to regulations 9, 11, 13, and 15; A.174(VI). Addition of a new regulation 15 bis; A.122(V).

CHAPTER V—SAFETY OF NAVIGATION

Amendment to regulation 12.—A.146(ES.IV) and A.174(V). Addition of a new regulation 18; A.122(V). Addition of a new regulation 19, 20; A.146(ES.IV). Addition of a new regulation 21; A.174(VI).

APPENDIX—CERTIFICATES

Amendment to the Passenger Ship Safety Certifcate, amendment to the Cargo Ship Safety Equipment Certificate, amendment to the Cargo Ship Safety Radiotelegraph Certifcate, amendment to the Nuclear Passenger Ship Safety Certificate, and amendment to the Nuclear Cargo Ship Safety Certificate; A.174(VI).

RECOMMENDATIONS AND CODES RELATING TO MARITIME SAFETY ADOPTED BY INCO 1ST THRU 6TH SESSIONS

(Numbers in brackets refer to Assembly Resolutions)

I. TONNAGE MEASUREMENT

Recommendation on the treatment of spaces on board ships for the separation, clarification or purification, and the carriage of slop oil (A.115(V)).

II. STABILITY AND LOAD LINES

1. Recommendation on stability information for ships carrying grain (A.49 (III)).
2. Recommendation on intact stability for passenger and cargo ships under 100 metres in length (A.167(ES.IV)).
3. Recommendation on intact stability of fishing vessels (A.168(ES.IV)).
4. Recommendation for uniform application and interpretation of Regulation 27 of the International Convention on Load Lines, 1966 (A.172(ES.IV)).

III. FIRE PROTECTION

1. Recommendation to put fire safety measures into effect (A.109(ES.III)).
2. Recommendation for fire safety measures for all passenger ships (A.110 (ES.III)).
3. Recommendation on fixed fire extinguishing systems for special category spaces (A.123(V)).
4. Recommendation for fire test procedures for "A" and "B" Class divisions (A.163(ES.IV)).
5. Recommendation concerning checking the constancy of the properties of materials (A.164(ES.IV)).
6. Recommendation on fire safety measures for hydrofoil boats (A.183(VI)).

IV. SAFETY OF NAVIGATION

1. Weather messages in oceanic areas (A.95(IV)).
2. Recommendation on pilot ladders on fishing vessels and vessels of less than 500 tons gross (A.130(V)).
3. Recommendation on the application of certain rules of the International Regulations for Preventing Collisions at Sea, 1960 (A.131(V)).
4. Recommendation on additional signals to be used by vessels fishing in close proximity (A.132(V)).
5. Recommendation on the carriage of electronic position-fixing equipment (A.156(ES.IV)).
6. Recommendation on the use and testing of shipborne navigational equipment. (A.157(ES.IV)).
7. Recommendation on post advisory services (A.158(ES.IV)).
8. Recommendation on pilotage (A.159(ES.IV)).
9. Recommendation on data concerning maneuvering capabilities and stopping distances of ships (A.160(ES.IV)).
10. Recommendation on establishing traffic separation schemes and areas to be avoided by ships of certain classes (A.161(ES.IV)).
11. Recommendation on recommended practices for navigation lights (A.177 (VI)).
12. Recommendation on positioning of navigation lights (A.178(VI)).
13. Recommendation on establishment of fairways through off-shore resources exploration areas (A.179(VI)).
14. Recommendation on dissemination of information, charting and manning of drilling rigs and production platforms (A.180(VI)).
15. Recommendation on establishing additional traffic separation schemes and areas to be avoided by ships of certain classes (A.186(VI)).

V. RADIOCOMMUNICATIONS

1. International Code of Signals (A.80(IV)).
2. Emergency position-indicating radio beacons (A.91(IV)).
3. Recommendation on signals by emergency position-indicating radio beacons (A.127(V)).
4. Safety radiocommunication requirements for drilling rigs and production platforms and similar units (A.182(VI)).

VI. LIFE-SAVING APPLIANCES

1. Recommendation on life-saving appliances for hydrofoil boats (A.126(V)).
2. Recommendation for testing life-jackets (A.169(ES.IV)).
3. Recommendation on life-saving appliances for air cushion vehicles (A.170 (ES.IV)).
4. Instructions on survival in life-rafts (A.181(VI)).

VII. CARRIAGE OF CARGO

1. International Maritime Dangerous Goods Code (A.81(VI)).
2. Code of Safe Practice for Bulk Cargoes (A.82(IV)).
3. Adoption of grain regulations as an equivalent to Chapter VI of the International Convention for the Safety of Life at Sea, 1960 (A.184(VI)).
4. Application of grain regulations to cargo ships of less than 500 tons gross tonnage (A.185(VI)).

VIII. MARINE POLLUTION

1. Reports on accidents involving significant spillages of oil ((A.147(ES.IV)).
2. National arrangements for dealing with significant spillages of oil (A.148 (ES.IV)).
3. Research and exchange of information on methods for disposal of oil in cases of significant spillages (A.150(ES.IV)).
4. Detection of offences against and enforcement of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (A.151(ES.IV)).
5. Penalties for unlawful discharge of oil into the sea (A.153(ES.IV)).
6. Oil reception facilities (A.154(ES.IV)).

IX. TRAINING

1. Recommendation on crew training (A.124(V)).
2. Training of masters, officers and crew (A.188(VI)).

IMCO

Assembly—7th session, October 5–15, 1971

LIST OF RESOLUTIONS ADOPTED BY THE SEVENTH ASSEMBLY

The following list gives the date of adoption of the Resolution, the source of the relevant texts being shown within brackets.

RESOLUTION NO. AND TITLE

October 12, 1971

A.205(VII): Amendments to the International Convention for the Safety of Life at Sea, 1960 (A VII/7, Annex, as amended).

A.206(VII): Amendments to the Recommendation on Intact Stability for Passenger and Cargo Ships under 100 Metres in Length (A.167(ES.IV)) with respect to Ships Carrying Deck Cargoes (A VII/8, Annex XVII).

A.207(VII): Recommendation for an Interim Simplified Stability Criterion for Decked Fishing Vessels under 30 Metres in Length (A VII/8, Annex V).

A. 208(VII): Recommendation on Construction of Fishing Vessels affecting the Vessel's Stability and Crew Safety (A VII/8/Add.2, Annex VII).

A.209(VII): Recommendation on Information to be Included in the Maneuvering Booklets (A VII/8, Annex I).

A.210(VII): Recommendation on Steering Gear for Large Ships (A VII/8, Annex XVI).

A.211(VII): Recommendaiton on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space (A VII/8, Annex XV).

A.212(VII): Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (A VII/8, Annex XIV).

A.213(VII): Recommendation on Fire Safety Requirements for Construction and Equipment of New Tankers (A VII/8/Add.2, Annex VIII, as amended).

A.214(VII): Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings (A VII/8, Annex VI).

A.215(VII): Correction to the text of the Recommendation for Fire Test Procedures for "A" and "B" Class Divisions (A.163(ES.IV) and A VII/8, Annex VII).

A.216(VII): Instructions for Action in Survival Craft (A VII/8, Annex XI and A VII/8/Add.1, Annex).

A.217(VII): Measures for Strengthening and Improving the Maritime Distress System (A VII/8, Annex VIII).

A.218(VII): Safety Radiocommunication Requirements for Novel Types of Craft (A VII/8, Annex IX).

A.219(VII): Unification of Performance Specifications (A VII/8, Annex X).

A.220(VII): Introduction of Selective Calling (SSFC) System (A VII/8/Add.2, Annex V).

A.221(VII): Radio Equipment for Homing (A VII/8, Annex III).

A.222(VII): Performance Standards for Navigational Radar Equipment (A VII/8, Annex XII).

A.223(VII): Performance Standards for Radio Direction-finding Systems (A VII/8/Add.2, Annex III).

A.224(VII) : Performance Standards for Echo-sounding Equipment (A VII/8/Add.2, Annex IV).
A.225(VII) : Homing Capability of Search and Rescue (SAR) Aircraft (A VII/8/Add.2, Annex VI).
A.226(VII) : Traffic Separation Schemes (A VII/8/Add.2, Annex I).
A.227(VII) : System of Traffic Separation Schemes in the Dover Strait and Adjacent Areas (A VII/8/Add.2, Annex II).
A. 228 (VII) : Observance of Traffic Separation Schemes (A VII/8, Annex XIII).
A. 229 (VII) : Merchant Ship Search and Rescue Manual (MERSAR) (A VII/8, Annex IV).
A. 230 (VII) : Adoption of the International Maritime Dangerous Goods Code (A VII/8/Add. 2, Annex IX).
A. 231 (VII) : Amendments to the International Convention on Load Lines, 1966 (MSC XXI/23, Annex VIII).
A. 232 (VII) : Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, (as amended in 1969) concerning the Protection of the Great Barrier Reef (MSC XXIII/19, Annex IX, as amended).
A. 233 (VII) : Recommendation on International Performance Specifications for Oily Water Separating Equipment and Oil Content Meters (A VII/10, Annex I).
A. 234 (VII) : Disposal of Oily Bilge and Ballast Water from Ships in Ports (excluding Effluent from Cargo/Ballast Tanks in Tankers) (MSC XXIII/19, Annex XI).
A. 235 (VII) : Facilities in Ports for the Reception of Oil Residues (MSC XXIV/19, Annex II).
A. 236 (VII) : Implementation of the 1969 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (MSC XXIV/19, Annex III).

October 13, 1971

October 15, 1971

A.246(VII) : Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, concerning Tank Arrangements and Limitation of Tank Size (MSC XXIII/19, Annex XVI, as amended by A VII/WP.19).
A.247(VII) : Recommendation to put into Effect Requirements relating to Tank Arrangements and to the Limitation of Tank Size from the Point of View of Minimizing Pollution of the Sea by Oil (MSC XXIII/19, Annex XVII).

IMCO

Assembly—8th session November 13–23, 1973

List of Resolutions Adopted by the Eighth Assembly

The following list gives the date of adoption of the Resolution, the source of the relevant texts being shown within brackets.

Resolution No. and Title

November 13, 1973

A.259(VIII) : Convention on the International Regulations for Preventing Collisions at Sea, 1972 (A VIII/13(c), Annex II).
A.260(VIII) : International Convention for Safe Containers (CSC), 1972 (A VIII/13(d), Annex V).

November 14, 1973

November 20, 1973

A.263(VIII) : Amendments to Chapters II, III, IV and V of the International Convention for the Safety of Life at Sea, 1960 (A VIII/9).
A.264(VIII) : Amendments to Chapter VI of the International Convention for the Safety of Life at Sea, 1960 (A VIII/9/Corr.1).
A.265(VIII) : Regulations on Subdivision and Stability of Passenger Ships as an equivalent to Part B of Chapter II of the International Convention for the Safety of Life at Sea, 1960 (A VIII/10, Annex XX, A VIII/10/Add.3, Annex III and A VIII/WP.2 paragraph 15(20)).

A.266(VIII): Recommendation on a Standard Method for Establishing Compliance with the Requirements for Cross-Flooding Arrangements in Passenger Ships (A VIII/10, Annex IX).
A.267(VIII): Code of Practice Concerning the Accuracy of Stability Information for Fishing Vessels (A VIII/10, Annex V).
A.268(VIII): Amendments to Recommendation on Intact Stability of Fishing Vessels—Appendix V—Recommended Practice on Portable Fish-hold Divisions (A VIII/10, Annex VI).
A.269(VIII): Recommendation for Skippers of Fishing Vessels on Ensuring a Vessel's Endurance in Conditions of Ice Formation (A VIII/10, Annex XXI).
A.270(VIII): Recommendation on Test Method for Qualifying Marine Construction Materials as Non-Combustible (A VIII/10, Annex IV and A VIII/10/Add.1, paragraph 3).
A.271(VIII): Recommendation to put Fire Safety Measures for Tankers and Combination Carriers into Effect (A VIII/10/Add.1, Annex I).
A.272(VIII): Recommendation on Safe Access to and Working in Large Tanks and Recommendation on Safe Access to and Working in Large Cargo Holds of Bulk Carriers (A VIII/10, Annex VIII).
A.273(VIII): Recommendation on Survey of Inflatable Life-rafts (A VIII/10, Annex XIII).
A.274(VIII): Recommendation on Retro-Reflective Tapes on Life-Saving Appliances (A VIII/10/Add.1, Annex III).
A.275(VIII): Recommendation on Performance Standards for Mechanical Pilot Hoists (A VIII/10, Annex XV).
A.276(VIII): Recommendation on the Number of Persons allowed on Board Existing Passenger Ships Resulting from an Increase in Life-raft Capacity (A VIII/WP.2, Annex II).
A.277(VIII): Recommendation on Performance Standards for Radar Reflectors (A VIII/10, Annex I).
A.278(VIII): Supplement to the Recommendation on Performance Standards for Navigational Radar Equipment (A VIII/10, Annex II).
A.279(VIII): Recommendations on Emergency Position-Indicating Radio Beacons (A VIII/10, Annex VII).
A.280(VIII): Recommendation on Performance Standards for Gyro Compasses (A VIII/10, Annex X).
A.281(VIII): Recommendation on General Requirements for Electronic Navigational Aids (A VIII/10, Annex XI).
A.282(VIII): Recommendation on the Installation and Use of Maneuvering Lights (A VIII/10, Annex XII).
A.283(VIII): Recommendation on the Development of the Maritime Distress System (A VIII/10, Annex XVII).
A.284(VIII): Routing Systems (draft Resolution attached to A VIII/10/Add.2).
A.285(VIII): Recommendation on Basic Principles and Operational Guidance Relating to Navigational Watchkeeping (A VIII/10/Add.1, Annex IV and A VIII/C.2/WP.2).
A.286(VIII): Recommendation on Training and Qualifications of Officers and Crews of Ships carrying Hazardous or Noxious Chemicals in Bulk (A VIII/10/Add.1, Annex V, MSC XXVII/22/Corr.1).
A.287(VIII): Code of Safe Practice for Ships Carrying Timber Deck Cargoes (A VIII/10, Annex III).
A.288(VIII): Recommendation on the Safe Stowage and Securing of Containers on Deck of Vessels which are not specifically designed and fitted for the purpose of carrying Containers (A VIII/10, Annex XVI).
A.289(VIII): Recommendation of Safe Practice on Dangerous Goods in Ports and Harbours (A VIII/10/Add.1, Annex II).

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A.296(VIII): International Conference on Marine Pollution, 1973 (A VIII/13(f), Annex).
A.297(VIII): Establishment of a Marine Environment Protection Committee (A VIII/WP.10, Annex I).
A.299(VIII): Classification and Labelling of Dangerous or Hazardous Cargo (A VIII/17(b), Annex IV).

IMCO

LIST OF RESOLUTIONS ADOPTED BY THE NINTH ASSEMBLY

The list shows the date of adoption of the Resolution.

RESOLUTION NO. AND TITLE

November 12, 1975

A.319(IX) : Amendment to the International Convention on Load Lines, 1966.

A.320(IX) : Regulation Equivalent to Regulation 27 of the International Convention on Load Lines, 1966.

A.321(IX) : Procedures for the Control of Ships.

A.322(IX) : The Conduct of Investigation into Casualties.

A.323(IX) : Recommendation to Ensure Uniform Treatment of Ships designed for the Carriage of Vehicles involved in International Road Transport of Goods.

A.324(IX) : Recommendation on Position of Collision Bulkheads in Cargo Ships.

A.325(IX) : Recommendation concerning Regulations for Machinery and Electrical Installations in Passenger and Cargo Ships.

A.326(IX) : Amendment to the draft Regulations concerning Fire Safety Measures for Tankers and Combination Carriers annexed to Resolution A.271(VIII).

A.327(IX) : Recommendation concerning Fire Safety Requirements for Cargo Ships.

A.328(IX) : Code for the Construction and Equipment of Ships carrying Liquefied Gases in Bulk.

A.329(IX) : Recommendations concerning Ships not covered by the Code for the Construction and Equipment of Ships carrying Liquefied Gases in Bulk (Resolution A.238(IX)).

A.330(IX) : Amendment to the Recommendation on Safe Access to and Working in Large Tanks (Resolution A.272(VIII), Annex I) to include Large Water Ballast Tanks.

A.331(IX) : Recommendation on Longitudinal Rubbing Bands.

A.332(IX) : Recommendation on Arrangements for Embarking and Disembarking Pilots in very large Ships.

A.333(IX) : Recommendation on the Conditions for Approval of Servicing Stations for Inflatable Liferafts.

A.334(IX) : Recommendation on Operational Standards for Radiotelephone Transmitters and Receivers.

A.335(IX) : Recommendations relating to Chapter IV of the International Convention for the Safety of Life at Sea.

A.336(IX) : Recommendation on the Carriage of VHF Radiotelephone Stations.

A.337(IX) : Recommendation on Principles and Operational Guidance for Deck Officers in charge of a Watch in Port.

A.338(IX) : Routeing Systems.

A.339(IX) : Recommendations on Navigation through the Entrances to the Baltic Sea.

A.340(IX) : Recommendation on Establishment of Fairways through Off-Shore Exploration Areas.

A.341(IX) : Recommendation on Dissemination of Information, Charting and Manning of Drilling Rigs, Production Platforms and other similar Structures.

A.342(IX) : Recommendation on Performance Standards for Automatic Pilots.

A.343(IX) : Recommendation on Methods of Measuring Noise Levels at Listening Posts.

A.344(IX) : Recommendation on Search and Rescue Signals between Aircraft and Ships.

A.345(IX) : Recommendation on Marking and Labelling of Dangerous Goods.

A.347(IX) : Entry into force of the 1969 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 and of the International Convention for the Prevention of Pollution from Ships, 1973.

A.348(IX) : Provision of Reception Facilities for Oil Residues and Wastes under the International Convention for the Prevention of Pollution from Ships, 1973.

A.349(IX) : Technical Assistance in the Field of Marine Pollution.

November 13, 1975

A.353(IX) : Co-operation between IMCO and the ILO on the Subject of Sub-Standard Ships.

Mr. BURTON. Now, over there on the large chart, I'm looking at the net assessed/billed. What is the difference between "assessed" and "billed"? That is column 2.

In other words, let's take 1976. It cost the taxpayers of the country $14 million. We assessed and billed $1.6 million for that. What is assessed—is it assessed and billed, assessed or billed? What does that mean?

Admiral BENKERT. No difference.

Captain SCHUBERT. We really don't know what that terminology means, because some of these cases are still in litigation.

Mr. BURTON. But to get in litigation you had to make an assessment of damage. They didn't agree with it so they went to court; right?

You assess it—like, it cost us $1½ million for clean up. Then you send them a bill for $1½ million.

Commander BURGESS. I'm not sure who came up with those terms. It may be that that's the amount of money that we billed to people.

Mr. BURTON. GAO came up with them, so they're sacrosanct.

Commander BURGESS. When we use "assess"—we use "assess" in the civil penalty end of things. There we "assess," that is, determine the level of the penalty.

Mr. BURTON. And then you would bill them; you would——

Commander BURGESS. We don't normally. We usually go through and determine what we think the actual cost was, and then we send out a bill.

Mr. BURTON. OK. So they're really about the same, except you might have assessed it and not billed it yet—but they're really the same figure in most instances?

Commander BURGESS. It's a little different term—the terminology.

Admiral BENKERT. It's a billing, Mr. Chairman.

Mr. BURTON. So, basically, the figure of $23 million, you haven't assessed or billed, and you'll let us know what part of that is, I guess, mystery spills or over-liability situations.

Then when you get down to the collection, we haven't collected $34 million. I would assume that at least the $11 million that we haven't collected out of what was assessed and billed is because it's being contested in court.

Is it safe to say the difference between $36 million and $13 million is unexplained mystery costs or else costs over the liability limits?

Commander BURGESS. Plus the amount in litigation.

Mr. BURTON. No; litigation would be the difference between the $13 million and the $9 million.

Commander BURGESS. Yes; that's correct.

Mr. BURTON. Because you can't get into litigation until you assess and bill.

Commander BURGESS. That's correct.

Mr. BURTON. So there's $23 million that was the result of either mystery spills or over-liability, is that right?

Commander BURGESS. Well, in some cases, it's a question of collecting the costs.

Mr. BURTON. No; I mean you can't collect anything unless you assess it and bill it. Right?

Commander BURGESS. No; I don't mean it that way, Mr. Chairman.

Mr. BURTON. Well, I do. Is that not true? Isn't that a fact?

Commander BURGESS. Yes; I agree with that.

What I'm saying is, though, that it takes some time from when the incident occurs to the time that we pay out all the bills, and then we have to work—we work with contractors, so it takes a period of time. In some cases it takes us 9 months, or something like that, before we actually pay the money out. Then we get that information, we have to process it. Then we gather our statistics together. Then we are in a position to bill.

Mr. BURTON. Wait a minute now. The fund charge is, I assume, money paid out; right? There are three columns here. Fund charges—that's got to be money charged against the fund, and it means it's got to be paid; right? Contractors and——

Commander BURGESS. It may be obligated money.

In other words, when a spill occurs we will obligate a certain amount of money to cover a particular spill.

Captain SCHUBERT. Mr. Chairman, these figures are new to us, and we really haven't had a chance to examine the basis of them.

Mr. BURTON. OK. We'll get a reduced copy of the charts to you, and you can let us know. But basically, notwithstanding the money, the dollars, it shows a great discrepancy between fund charges, which I would assume were fund payouts rather than obligations, assessments, which is what we tried to recoup, and then what we collected after the assessments.

Even given lag time between the $13 million and the $1.9 million, I would have to indicate that means either where people tell us the check for the cleanup costs is in the mail but we haven't received it or where we're in court.

The only difference I can figure out between the $36 million and the $13 million is the mystery spills where we can't find anybody to bill, or other cases where the cost was over the liability limit.

When you get into negotiations, do you ever end up doing a compromise and release? You say, "You owe us $1 million." They say, "We owe you $500,000." Maybe you strike a deal at $750,000 because——

Commander BURGESS. We don't—because we can't settle those kinds of cases. That's beyond the limit that we can——

Mr. BURTON. If you come in with a bill for $1 million and they say, "We aren't going to pay it," then Justice has this part of the litigation?

Commander BURGESS. We don't have the authority within our agency to settle those kinds of cases. Our authority is considerably less than that.

Mr. BURTON. Does anybody ever pay you flat out, then?

Commander BURGESS. Oh, we've had one or two cases.

Mr. BURTON. Does anyone ever—when you make an assessment, accept it and pay it?

Commander BURGESS. Mostly in small cases.

Mr. BURTON. Well, how about in a big one where it's up against the limit, and if they end up going to court they might find themselves really stuck for a greater amount and they're better off paying the limit?

Commander BURGESS. They litigate.

Mr. BURTON. The small ones are the only ones you get.

Commander BURGESS. The small ones, $5,000 to $10,000, something in that area.

Mr. Burton. The last question. The Water Pollution Control Act talks about maritime disaster discharges. For the counsel it would be 33 U.S. 1321, subsection (d), which states:

> (d) Whenever a marine disaster in or upon the navigable waters of the United States has created a substantial threat of a pollution hazard to the public health or welfare of the United States, including, but not limited to, fish, shellfish, and wildlife and the public and private shorelines and beaches of the United States, because of a discharge, or an imminent discharge, of large quantities of oil, or of a hazardous substance from a vessel * * *.

That directs all public and private efforts directed at the removal or elimination, and, if necessary, to even destroy or move the vessel.

> Any expense incurred under this subsection shall be a cost incurred by the United States Government * * *.

In other words, the United States has to pay the cost of this. Taxpayers, all of us.

Can the Coast Guard give us a breakdown under this provision as to how much of the costs we're paying are "private" and how many are "public"? Is there any way you can proceed against the responsible party for recovery? Who makes the determination that the spill is a disaster within that subsection as against just an unfortunate accident?

Captain Schubert. We will provide that for the record, Mr. Chairman.

[The information follows:]

A. A spill does not have to be termed a disaster to permit removal action to be taken. Subsection (c) of U.S.C. 1321 permits the President to act to remove or arrange for the removal of oil at any time unless he determines that such removal will be done properly by the owner or operator of the vessel, onshore facility or offshore facility from which the discharge occurs. This authority is delegated by executive order and the National Contingency Plan to the Federal On-scene Coordinator.

The following is a sketch of the expenditures from the Pollution Fund for private and public resources; there is no way the Coast Guard can separate expenditure for actions taken under the authority of subsection d of 33 U.S.C. 1321 from the remainder of those taken under subsection (c).

Identification by purpose

	Millions
Contract services for containment, disposal, and oil removal:	
Commercial (95 percent)	$38.6
Other Government agencies (4 percent)	1.6
Other: Travel, transportation, supplies, etc. (1 percent)	.5
Total obligations	40.7

Subsection (f) of U.S.C. 1321 provides that subject to liability limitations established by the law an owner or operator of a vessel, onshore, or offshore facility, is liable to the United States Government for the actual costs incurred under subsections (c) for removal of such oil. The limits of liability established by law, $100 per gross ton of such vessel, or $14,000,000 whichever is lesser, and not to exceed $8,000,000 for onshore and offshore facilities.

Subsection (d) requires that the condition of a marine disaster, must be met to permit the fund established by subsection (k) of U.S.C. 1321 to be utilized to respond to a substantial threat of a pollution hazard which occurs because of a discharge, or an imminent discharge, of large quantities of oil. Additionally, subsection (d) requires that the disaster occur in or upon navigable waters and that the threat come from a vessel. The Coast Guard believes that this portion of the law should be changed to permit prestaging and preventative response actions to be funded by the Pollution Fund whenever there is a threat of pollution occurring in the waters over which the Act has jurisdiction.

The authority to make the determination that an incident is a disaster under the provisions of the Act is retained by the Commandant of the Coast Guard. This decision is based upon the recommendation of the Federal On-scene Coordinator submitted through the appropriate Coast Guard District Commander.

Captain SCHUBERT. Your last question—the on-scene coordinator. The Federal, predesignated, on-scene coordinator is the man who makes the judgment as to whether or not Federal action is in fact warranted.

The predesignated, on-scene coordinators are experienced officers in the Coast Guard in the coastal regions. In the inland regions they are EPA officials.

Mr. BURTON. That's not as complicated as it is on land—trying to get the difference between emergencies and disasters?

Captain SCHUBERT. No, sir. In fact there is substantial flexibility there too—with due consideration to the resources that are threatened.

Mr. BURTON. That's a level, I mean, it's either not much or it's a disaster. There aren't a lot of stages.

Captain SCHUBERT. Well, let me give you an example of where a relatively small spill may be considered a marine disaster.

Mr. BURTON. At a marine biology lab, or something.

Captain SCHUBERT. Well, the whistling swans, for instance—if they were in a particular nesting area that was threatened by a very small spill. That would certainly be a marine disaster.

Mr. BURTON. I have no further questions.

We will compile a list of other questions, along with those that we have asked you to respond to. It is my hope that after these hearings we could issue this report as soon as possible, so that it has some beneficial use to the committees that are considering the President's proposal.

Just one thing would make me feel a little better.

Do you feel, under the President's directive, that we are now going to proceed unilaterally to start adopting regulations, while at the same time pursuing international acceptance of these regulations? Or does the Coast Guard feel that, notwithstanding the President's directive, it is implicit that we go through the long, involved international process and see how that works out before we start unilaterally strengthening our operation?

Admiral BENKERT. No, sir. I feel that the President's directive is rather specific. We are going to proceed unilaterally, and at the same time we are going to proceed in the international forum to try and get international accord on what we are looking for in regard to implementing the President's message, and particularly the specifics that are in there, sir.

Mr. BURTON. Will we proceed unilaterally and hope that they come as close to that as possible? Is that it?

Admiral BENKERT. You do have to dovetail the two together, sir.

We are going to put out proposed regulations to implement the specifics that are in the President's message within the 60 days that is itemized.

Mr. BURTON. You're going to propose those as Coast Guard regulations, and then propose them as items on an IMCO agenda?

Admiral BENKERT. These specific items are going to be broached, sir, to the international forum—as a matter of fact, by me, personally, in April. We have a meeting of the Maritime Safety Committee which

I believe commences on April 18. We are preparing papers, and we are prepared, in essence, to present the President's program to the meeting of the Maritime Safety Committee of IMCO in April.

Mr. BURTON. And as those items go through that 2 year international process, we are going to proceed with our normal regulatory process that may in 60, 90 or 120 days result in these regulations becoming the policy of the Coast Guard as far as our waterways are concerned?

Admiral BENKERT. Our intention is to proceed on this unilateral basis; and at the same time, as the President has indicated, to try and get acquiescence, if you will, and cooperation from the international arena.

Mr. BURTON. Thank you.

Mr. Hightower?

Mr. HIGHTOWER. I have no further questions. I just wanted to inquire of the chairman what your procedure is to be now for the rest of the hearing today?

Mr. BURTON. We have three additional witnesses: Captain Stillwaggon, who is president of the Interport Pilots Association; a panel from the Federal Maritime Commission; and the Justice Department.

Mr. HIGHTOWER. If I might suggest, then, Mr. Chairman, if we can proceed to head from Mr. Stillwaggon—and then since the House will be going in in a few minutes, perhaps recess until 2 o'clock for the other witnesses.

Mr. BURTON. That makes sense to me.

Any further questions?

[No response.]

Mr. BURTON. I think—the only thing up today is equal rights for industrial workers and craftsmen. Is that 2 hours of debate?

Mr. HIGHTOWER. I think so.

I think when we get into the markup—when we get into the amending portion of the time, though, that members of the committee will want to be on the floor.

Captain Stillwaggon's testimony is rather short, so we might hear it before lunch and then ask the others to come back.

Mr. BURTON. All right, thank you.

Captain Stillwaggon?

Captain STILLWAGGON. Shall I proceed, Mr. Chairman?

Mr. BURTON. Yes, sir.

STATEMENT OF CAPT. JAMES G. STILLWAGGON, PRESIDENT, INTERPORT PILOTS ASSOCIATES, INC.

Captain STILLWAGGON. Mr. Chairman, I am Capt. James G. Stillwaggon, president of Interport Pilots Associates, Inc., a group of Federal pilots operating in the waters of northeast Atlantic coast, all its harbors and in St. Croix, U.S. Virgin Islands.

I am an active working pilot, a consultant in pilotage matters and an instructor in VLCC ship handling at St. Croix, Virgin Islands. I am also an instructor at marine safety international ship handling simulator at LaGuardia Airport, New York.

I received my original license in 1942 and at present hold a masters, bays, sound and river, first class pilot, any vessel, any gross tons, New York Harbor, Boston, Philadelphia, Long Island Sound and all its ports, Limetree Bay and Krauss Lagoon, St. Croix.

I would like to direct my statements and answers to questions, if any, to the subject of licensing, training and qualifications of licensed pilots.

For a long time I have been disturbed by the fact that a licensed master or mate with pilotage endorsements can make a minimum number of round trips, usually 12 or 15, over a particular section of waterways as a "pilot observer" and take a written examination on (1) 20 questions on rules of the road, (2) ship handling, (3) local knowledge, and (4) chart drawing. If he passes the examination he receives a license which "certifies that having been duly examined and found competent by the undersigned is licensed to serve as first class pilot upon the waters." There is no "road test" or practical proof required.

In the first place the person who conducts the examination is not a licensed pilot and therefore can only check the examination for mistakes, and he grades the applicant accordingly.

Of course, we know there are some people who can recite the "rules of the road" verbatim, but who may not really know the true meaning of those rules.

There have been times when men otherwise qualified have failed Coast Guard examinations because their handmade chart, drawn from memory, was not equal to the one drawn by the cartographers of the Coast and Geodetic Survey. No amount of persuasive talk on the part of the failed candidate could change the mind of the examiner whose total experience in ship handling might have been as officer-in-charge of a 40- or 65-foot patrol boat.

I do not wish to derogate the Coast Guard in this statement, but that is the system we live with and it is not satisfactory if the result we want to achieve is the licensing of a well-trained, qualified pilot.

The solution to the problem is to have pilots trained and examined by licensed pilots, both on the waters and in simulators.

In the past the new pilot was taken in hand by a senior pilot and trained on the job. In most cases this system worked out, but the trial and error method is not realistic today.

With the advent and perfection of ship handling simulators there is the possibility of training men for the job of ship handling before turning them loose on inland waters, providing there is a background of experience to draw from. No one should be accepted as a pilot until he has served as a deck officer on a deep sea vessel or an inland tugboat for at least 5 years, or until he has secured a masters license on either a deep sea vessel or a tug.

One who has lived in a ship knows what a ship can do and, more importantly, what a ship cannot do.

I want to see a group of qualified pilots who can serve as consultants to the Coast Guard in licensing and training of future pilots.

In addition, there should be two classes of working pilots (1) men who direct vessels over bays, sounds, and rivers to a position in the inner harbor, and (2) men designated as docking masters whose duty should be the docking and undocking of vessels. There is no reason why one man cannot qualify in both classes after sufficient training.

At the present time a man can be accepted as a docking master who has had no real training in the task. The pilot organizations, Federal and State, control, to some extent, the scope of activities of the men within the groups; but the lack of nationwide training and qualifications leaves the possibility that pilots in one area will not be what pilots should be—the best.

With the simulators now in use and those the future will certainly bring, we can train pilots and other deck officers to a fine point. When the pilots are trained over the waters and in the simulators, the Coast Guard can, with the help of qualified pilots, examine and license those men deemed acceptable.

There is another area wherein the Coast Guard is weakened. Under the present patch-quilt State laws, a State licensed pilot on a foreign-flag vessel is not subject to Coast Guard control, even though the Ports and Waterways Safety Act of 1972 was designed to give the Coast Guard the responsibility of control over all ships in American waters.

Congress can and should correct this off-balance situation.

Consider this strange possibility—a coastwise, or enrolled vessel, is under the guidance of a federally licensed pilot and is in collision with a foreign-flag vessel or registered vessel under control of a State licensed pilot. Even if the foreign ship is at fault, the Coast Guard cannot move against the license of the State pilot who also has a Federal license.

Would it not be simpler and more just if all pilots were subject to the same rules?

The duties of pilots should not include inspection of a vessel before proceeding into inland waters.

Of course, if the ship is obviously unseaworthy, prudent seamanship on his part would dictate he abort the passage.

There is a method used by some major oil companies to acquaint the boarding pilot with the characteristics and equipment of the ship before the vessel gets underway into a bay or harbor. One company calls it a pilot/information sheet. The captain gives the paper to the pilot to read. There are several questions the pilot should answer in regard to the route passage. Pilot and master each sign the paper and each one keeps a copy of the record. There should be no language barrier or difficulty if all the details are written and agreed to in advance of the trip from the pilot station.

Perhaps a paper can be prepared for the pilot to present to the captain upon which the captain states that he has on board, in good working order, all of the equipment required by the Ports and Waterways Safety Act and by the Coast Guard.

If there is any important equipment not on board or in good working order, the pilot can notify the Coast Guard who can, if necessary, hold the ship offshore until the equipment is repaired or some other way is found to insure the safe passage of the ship into the port.

I think there is much to do in this field of master-pilot-Coast Guard relationship, and I would hope to see a committee of bona fide deck officers and pilots working with the Coast Guard to arrive at a better understanding of methods to prevent accidents in inland waters.

I hope my statement is of some use to the committee, and I thank you for the privilege of delivering it to you.

Mr. BURTON. Thank you, Captain.

How far from the shore are pilots required to board a vessel?

Captain STILLWAGGON. Mr. Chairman, it's quite a short distance. It varies with each port—but it would be within a mile or two. Sometimes

10 miles. But an average of somewhere around a mile or two from the entrance.

Mr. BURTON. Would it be beneficial if the requirement applied a little bit farther out? Would it make any difference if during the last 20 miles——

Captain STILLWAGGON. No; I don't think that would make any difference. It's the incoming ship—if it's in good condition, we could be sure that the pilot will do the job from 3 miles out as well as 20 miles out.

Mr. BURTON. Can you give us your impressions, based on experience, about whether there are any clear warning signs concerning the tankers which enter U.S. ports, such as their age, size, owners, and the flag they fly under?

Captain STILLWAGGON. I think it would be unfair to classify the ships by flag. I have been on Liberian ships which are in tip-top shape; and I have been on ships of other flags that are not. It's difficult to do that.

But with all the knowledge that the API, the Coast Guard, and all these people have, and from the things I have heard here this morning, I think it's probably advantageous to set up a list of the so-called black hats in the business. When they do arrive on station, if there is reason to suspect them, the pilot can certainly assist the Coast Guard, or the regulating body, in it.

For instance, if I were to go aboard a ship and the ship reports to me that his telegraph is not in working order and he's a foreign ship—I must then depend on my movements of the ship to be broadcast to the engine room in a foreign language and then reported back to me. I would say that in this case that ship should be declared unseaworthy.

I think in a case like that, upon arriving at it, I think I would protest to the captain that unless the message was given in English language that I can understand I don't think I would move the ship any farther into the waters.

Mr. BURTON. What's your liability if you make that kind of judgment yourself?

Captain STILLWAGGON. Personal?

Mr. BURTON. Yes.

Captain STILLWAGGON. I would think that I might—it might be frowned upon by some of the people, but I think that in the overall picture and from what has happened in the past and what we hope to prevent in the future I would be willing to accept reprimand from anybody on that.

Mr. BURTON. But that's what would happen—it would be a reprimand? Assuming your judgment was a proper judgment based on the seaworthiness of the vessel. In other words, there would be no pressure, economic or otherwise, that would put you in a position of second-guessing your own best judgment and say, "What the hell, we may as well take it in"?

Captain STILLWAGGON. Well, as a Federal pilot, I'm more or less a contract pilot to various companies. The State pilot has a difference—he's got an advantage over me in that regard, in that his State will protect him for his judgment.

Mr. BURTON. And State pilots aren't subject to the same regulation and the training that you are as a Federal pilot?

Captain STILLWAGGON. Well, actually there's no real training requirement today.

Mr. BURTON. Even for you?

Captain STILLWAGGON. Even for me.

If I was to go into the Coast Guard office today I could receive a license for an area for which I had just made 15 round trips.

Of course, my license is now a two-page document with all the endorsements that I have. I would think that the Coast Guard would figure that I am a qualified man.

But over the years I have wondered why there wasn't some kind of a "road test" for this. You wouldn't let anybody out on the streets of Washington without having——

Mr. BURTON. At least drive around the block; yes.

Captain STILLWAGGON. I don't think it's as simple as just driving around, because the people who make the judgment should be qualified too.

That's why I brought out this point of the simulator. If I might take a minute of your time—I'm involved right now as an instructor of this simulator at LaGuardia field. I have no financial ties to the group or anything like that; but it's the most amazing piece of equipment I've ever seen.

In the past 2 months I've been training ships captains—all of whom have been on ships many, many years. I have shown them, with that simulator, what we can do—and also what we cannot do.

We allow them to run the ships. If they go wrong and they go aground, all that happens is a little beep on the machinery and there's no oil spills. We give them the opportunity to learn from that turn whether they can make a proper turn.

I'm certain that in the future we will do the things the airplane people have done—put people through a simulated training. Let us see—before we turn them loose in the water, let us see that they actually can pilot a ship, and particularly over the waters that they are licensed for.

Mr. BURTON. Mr. Hightower?

Mr. HIGHTOWER. I have one question, Mr. Chairman.

Captain Stillwaggon, this matter of a State licensed pilot—according to your statement you say that they are not under the—"Under the present patch quilt State laws, a State licensed pilot on a foreign-flag vessel is not subject to Coast Guard control."

What do you mean by "Coast Guard control"?

Captain STILLWAGGON. Well, if a State licensed pilot has an accident——

Mr. HIGHTOWER. You mean like licensed in the State of New York—going into New York Harbor?

Captain STILLWAGGON. Right.

If he has a collision and he's on a foreign-flag vessel he is not under the control of the Coast Guard.

Mr. HIGHTOWER. What do you mean by "control"?

Captain STILLWAGGON. Well, he can't lose his license.

Almost every pilot has a Federal and a State license. The Federal pilots are licensed by the Coast Guard only. Almost all of the State pilots have a Federal license as well as their State license.

Mr. HIGHTOWER. But he could lose his Federal license?

Captain Stillwaggon. He can lose his State license, but he cannot lose his Federal license if he's involved in an accident on a foreign ship.

Mr. Hightower. Cannot lose his Federal license?

Captain Stillwaggon. That's right.

Mr. Hightower. And that's because of the way the statute is now written?

Captain Stillwaggon. That's right.

The Coast Guard has no control over State licensed pilots on foreign vessels in any port in the United States.

Mr. Hightower. Well, but you said he has a Federal license.

Captain Stillwaggon. He does have a Federal license.

The Federal licensed pilot is a man like myself who can take an enrolled coastwise vessel in and out of any port for which he is licensed.

Mr. Hightower. You have a license for the State of New York?

Captain Stillwaggon. I have a license for the State of New York, for Long Island Sound.

Mr. Hightower. Do you have a Federal license?

Captain Stillwaggon. Yes; I do.

Mr. Hightower. If you were on a foreign-flag ship and had an accident going into New York Harbor you could lose your State license but you couldn't lose your Federal license?

Captain Stillwaggon. That's right. The next day I could——

Mr. Hightower. Suppose that you had a Federal license and didn't have a State license? You couldn't be in there?

Captain Stillwaggon. In that case I could not be on a foreign vessel in Long Island Sound.

Only a State licensed pilot can go on a foreign or American registered vessel in the State inland waters.

Long Island Sound is under State pilotage from the States of New York and Rhode Island.

I have a State license for Long Island Sound.

My Federal license covers all the waters from Boston to Philadelphia, and St. Croix.

Mr. Hightower. I just don't understand why you could lose your State license and you couldn't be touched by the licensing authority—the Coast Guard. With your Federal license.

Captain Stillwaggon. Well, the State license is issued by your particular State——

Mr. Hightower. Mr. Chairman, would it be possible for me to get the Admiral to respond to that question? Do we have time to hear that?

Mr. Burton. Yes.

Mr. Hightower. Admiral, would you mind?

Admiral Benkert. Not at all, sir.

What Captain Stillwaggon says is absolutely correct. We have a situation today with our pilotage laws that if you are handling a foreign-flag vessel, or a U.S.-flag vessel which is in the foreign trade—a registered U.S.-flag vessel—with these categories of vessels, when they come into our inland waters, under the law today these vessels are required to take a State pilot. These are pilots who are licensed by the individual State.

As Captain Stillwaggon says, most of these pilots also have a Federal license issued by the U.S. Coast Guard; but they cannot handle a foreign-flag vessel or a U.S.-flag vessel under registry with that Federal license—by law.

Mr. HIGHTOWER. I wish we could examine that further, Mr. Chairman—but since this is a quorum call, and the second bell, I'm afraid we're going to have to leave.

Thank you very much.

Mr. BURTON. Mr. Stangeland?

Mr. STANGELAND. Mr. Chairman, just one question.

Do you have any data to show how many spills, accidents, or so on were caused because of pilot error?

Admiral BENKERT. Yes; we do, sir.

Mr. STANGELAND. I'd appreciate it.

[The information follows:]

A computer printout was made for fiscal years 1971 to 1976 for those tank vessel casualties which resulted in pollution and where the casualty was caused by an error in judgment by a State or federally licensed pilot. For this 6-year period there were 14 casualties with the above criteria.

Admiral BENKERT. We have casualty records on pilots; but I would like to say that the records of the pilots in this country—whether you're speaking of Federal pilots handling coastwise vessels or State pilots handling vessels under registry or foreign-flag vessels—their overall record is extremely good.

I would like to say this, if I might, sir. I think this is important, in relation to Captain Stillwaggon's testimony. We agree with a great deal of what he has said. As a matter of fact, within the last year we have been pursuing an amplification of our requirements for pilot training, for pilot qualification, for pilot reexamination.

Much of what Captain Stillwaggon has presented to you in the way of qualifications and licensing for pilots—including aspects of simulator use—are now in a proposed regulation draft which will be out on the street in the very near future.

We do not disagree at all with most of the premises that Captain Stillwaggon has made.

I would like to say further that the President's message further amplifies this, in a sense, to look at further qualifications of our people—which we are proceeding to do.

Mr. BURTON. Is there any type of statute for the State pilots—to meet a less stringent requirement, shall we say, to get a license? Is it easier to get licensed by a State than it is federally, Captain?

Captain STILLWAGGON. It depends upon the State. New York State, the State of Pennsylvania, Delaware—they have quite strict rules.

Mr. BURTON. Some of the States, without putting you on the spot to name them, they really have rather——

Captain STILLWAGGON. Yes; there are some.

Mr. BURTON. Admiral?

Admiral BENKERT. Might I add something to this, sir?

In this regard, this law—the basic law relative to State pilotage, the Coast Guard has not been happy with this for a long time. We have in generation right now a proposed statute change which would require all State pilots to be possessed of a Federal pilots license issued by the Coast Guard; and in turn, that a man operating under the State pilotage laws—and under this State pilotage, if you will—would be subject to disciplinary action by the Coast Guard on the basis of his holding that Federal pilot's license.

We have a legislative change which is being developed, and as a matter of fact is in the mill right now which will be proposed to Congress, sir.

Mr. BURTON. Well, for somebody who's really only going to be operating within a State jurisdiction—not requiring that they have a Federal pilot permit, but that the State standards have to——

You might run into problems with some of our colleagues that way; but you might be able to draft it so that even if they don't have the requirement for a Coast Guard Federal permit, we set certain standards that they have to live up to.

That's something I can see all the States-righters having a seizure over; but I believe we need that approach, or some approach that guarantees a high level of competency—because whether it's a State pilot or a Federal pilot they've got the same responsibility.

Captain STILLWAGGON. I'm not opposed to State pilotage, as such.

There is a need for some order at the entrance of a harbor. If it was just a case of any old boat going out there and putting any pilot aboard, it could be chaotic.

I've been in this business for a long time, and I would like to see a definite qualification training program established whereby each pilot who boards a ship could be the best pilot that the man can get.

There are cases where a pilot starts up the ladder on the side of a ship and when the captain takes his binoculars and looks down he says to the mate, "Tell him to go back to the boat. I don't want him. I've had trouble with him before."

In a couple of the ports in the United States, State pilotage is strictly nepotism—father, son, nephew, and so forth.

It would be more beneficial to everybody if each man who became a pilot was required to go to sea for some period of time, or to work on the inland tugboats, which are just as important—to learn to live in a ship.

As I say, there are so many people who know what ships can do, and so many who do not know what they cannot do.

If a man is next on turn and he gets aboard a ship, and he hasn't had real training, it's very possible that he can leave some oil along one of the rivers.

It is only in these last few years that we have this environmental pressure put upon everybody.

Speaking as a pilot, and for myself, I would say that anything that can be done to encourage safety on the waterfront—which includes my own sphere, this piloting qualification—I would like to see it done; if necessary, by national legislation, or second, by State legislation.

As I said, I received my first Coast Guard license a long, long time ago; and I have absolutely no fight with the Coast Guard.

My problem has been—and I've said it as long ago as 1945—that the examiner should be my peer. He should be a man who would know when I give him an answer to a question that it's the proper answer, fitting the proper job, rather than turning to page 12 to see if I've gotten all the answer grammatically correct.

We know that ships are big, and they're getting bigger; and we are going to see them along our coast somewhere along the line, because it's probably the best way to transport the product. Tankers, I'm talking about.

The liquefied natural gas (LNG) ships that are coming up in the future have everybody frightened. Right now I'm in the process of going into an instruction setup with the LNG ships that will operate in the Chesapeake Bay and the Savannah River. I will go over to Europe and ride on the ships on their trial runs. Then when they come to this country I will ride with them—take the men into the simulator—and we have the ability in that simulator to put them under any test.

We can give them sudden malfunctions; we can give them cross traffic, we can give them any of the things that might come up in the course of their career. Things which he may never see; but he will keep it in his mind that if the thing does happen he knows just what to do with the ship.

Let that be my legacy to this business when I get out of it—to see that the pilots are all No. 1 men, from coast-to-coast.

Mr. BURTON. What are the duties of a docking master?

Captain STILLWAGGON. Well, generally speaking, the docking master has no strict responsibility. The ship is always under the captain's control.

The docking master comes aboard the ship at an area close to the dock. In some cases, he's the same pilot who has taken the ship in from sea.

When he gets in the area close to the dock he takes the "conn" and brings the ship up to alongside the dock, using tugboats or not according to the job that he's doing.

His responsibility is no greater than the pilot's, which in most cases is zero.

The captain of the ship is responsible at all times for the ship.

We do have this though, a docking master who is a Federal pilot, and makes a mistake, is subject to Coast Guard surveillance or some kind of hearing at the Coast Guard. I don't know, offhand, if the Coast Guard would take a man's license away if he did some damage. Maybe there would be extenuating circumstances in the case.

Mr. BURTON. Well, if they don't do anything and they're just kind of there——

Captain STILLWAGGON. He does the conning of the ship, sir. In other words, when he comes aboard the ship the captain will step aside—or the pilot who brings the ship in. The docking master will then direct the ship to the berth. But at all times the captain is right there, and the captain can supersede the pilot's order at any time.

Mr. BURTON. The docking master's order?

Captain STILLWAGGON. The docking master and the pilot. The captain can overrule.

Mr. BURTON. You stated at the present time you can be a docking master with no real training in the task.

Captain STILLWAGGON. Well, I'm talking about the licensing.

The license that I would receive from the Coast Guard would state that I am a pilot for any vessel, any gross tons. What that says is that I have a right to maneuver ships, in this area that I'm licensed for, up to any gross tons——

Mr. BURTON. Whether you can do it or not?

Captain STILLWAGGON. Right.

Now if I have convinced somebody that I have the ability they might say, "Well go ahead and do it."

What I want to see is—I want to see that pilot have to guarantee to somebody that; yes, he has done this work—or at least he has been through simulated training for that particular work.

Mr. BURTON. How do you become a docking master?

Captain STILLWAGGON. Well, the same way it has been over the years. You're taken in tow by another pilot who will be decent enough to break you into the business—because there's quite a bit of money in being docking master. He takes you with him on ship after ship and shows you what he does.

Eventually, when he figures that you have enough experience in the field, he might allow you to do a docking job or an undocking job.

Gradually you become acquainted with the work. Practice makes perfect.

That's the training that that fellow has—really taken in hand by a senior pilot, you might say.

Mr. BURTON. Well, that might be better training than reading a book and taking a true and false test, though, wouldn't it?

Captain STILLWAGGON. Oh, absolutely.

That's the point that I tried to make—that is the test. If you're there with a pilot and you start to make an error, he knows immediately that you're making an error and can correct it.

If it's just a matter of answering a question that I will take a ship and I will put a springline out first, et cetera—that's not quite the making of a docking master.

Mr. BURTON. I'm kind of confused. You say that at the present time a man can be accepted as a docking master who has no real training in the task.

That also, in a way, could be true with the pilots then, I guess?

Captain STILLWAGGON. Well, that's the point—yes, sir.

Mr. BURTON. In other words, the point that you're making with both of these—regardless of title or nomenclature, is that there's no real test of proficiency and experience in doing it?

Captain STILLWAGGON. Right.

If I might make a point—I could board a ship at Chesapeake Bay, Cape Henry, and ride that ship up into Piney Point, for instance. If I did that 15 times, round trip, I would be given a license. But that's no guarantee that I learned anything in those 15 round trips.

Mr. BURTON. All you had to be is on the ship making trips?

Captain STILLWAGGON. Be there observing the aids to navigation and the hazards of the route.

The fault is with the system. That has been our way for so long.

I would much rather have somebody come to me and say, "Now that you have this license, let me see you do it." I could show in actual fact that I can move this ship from Cape Henry to Piney Point.

Mr. BURTON. To be a docking master you have to be licensed?

Captain STILLWAGGON. Yes, sir.

Mr. BURTON. By the Coast Guard, or by the State?

Captain STILLWAGGON. By the Coast Guard.

Mr. BURTON. Not the State?

Captain STILLWAGGON. Well, there again, there are some States where the State license would cover that situation.

Mr. BURTON. But to bring a ship into State waterways, shall we say, the pilot has to be licensed by the State to do it?

Captain STILLWAGGON. If it's a foreign ship or under registry.

Mr. BURTON. All right, if it's a foreign ship.

Captain STILLWAGGON. If it's a coastwise vessel, a federally licensed pilot like myself can do it.

Mr. BURTON. Do you need docking masters also in State waterways?

Captain STILLWAGGON. Well, the ship has to be docked and——

Mr. BURTON. But they don't have to be licensed by—in other words, conceivably the pilot would have to be licensed by New York and the docking master wouldn't?

Captain STILLWAGGON. No; it doesn't work that way.

The docking master, if it's not the pilot who brings the ship in from sea, is usually a federally licensed pilot, captain of a tugboat, who goes aboard the ship——

Mr. BURTON. But if it's a foreign-flag ship?

Captain STILLWAGGON. Foreign or otherwise, it doesn't matter. Once they get into the harbor, and the docking operation——

Mr. BURTON. What is the genesis of the fact that if it's a foreign-flag vessel there has to be a State pilot rather than a Federal pilot?

Captain STILLWAGGON. The Admiral knows that.

Admiral BENKERT. I can probably answer that, Mr. Chairman.

The original Federal statutes go back over 100 years, and set up that system for the State control over pilots in their waters with vessels in a foreign trade, U.S.-flag and foreign-flag vessels. There's a basic statute on pilots, sir.

Mr. BURTON. Somewhat obsolete?

Captain STILLWAGGON. One of the things that was in vogue at that time—the captain of a ship, on a coastwise trade, would be licensed in various ports. He was also called a coast pilot as well as master and pilot.

As the years went on, the American coastwise fleet lessened and there was less call for the master of a ship to be required by his company to have that license; so they would, in some cases, pick up a pilot like myself in New York and I would take a coastwise vessel from New York to New Haven, to Boston, to Philadelphia.

Then, of course, we do have a pilot station at the entrance to New York Harbor and at the entrance to the Delaware River for Federal pilots boarding enrolled coastwise vessels.

I realize it's kind of a mixed up thing——

Mr. BURTON. Yes.

Captain STILLWAGGON. We've lived with it so long we sort of accept it.

But as the Admiral says, Federal legislation covering all of the situation, I'm certain, would end some of the problems.

Mr. BURTON. That would also cover docking masters too: right?

Captain STILLWAGGON. I would think so; yes. It could be so designed.

Mr. BURTON In other words, there should be some level of uniform licensing requirements; and in that you would include actual experience and demonstration of proficiency in doing the job, as opposed to the ability to memorize the book and give the answers?

Captain STILLWAGGON. The Admiral was saying that's not all that they have, and I agree.

Mr. BURTON. Think how bad it would have been if the President wouldn't have come out with his message last week.

Admiral BENKERT. I don't think that's a fair statement, Mr. Chairman.

Mr. BURTON. I'm just kidding, Admiral. [Laughter.]

But you know it would have been different.

Admiral BENKERT. Let me say something about pilots—can I, Mr. Chairman? I think this is very important.

Everything that Captain Stillwaggon says is correct. I can't argue with anything that he says.

We have been appraising, and we are proceeding along these lines that he has voiced—looking at a more practical demonstration of capability of the individuals concerned, and trying to standardize this legislation. This gets into, as you yourself said, I think, a moment ago, some political considerations, which is not our business, but obviously when we propose legislation we must look at this.

I would like to say, Mr. Chairman, that our record—whether we're dealing with coastwise pilots, such as Captain Stillwaggon's primary occupation—and I must say, by the way, he has a tremendous reputation for this among Coast Guard people and among his own pilots. But in dealing with pilots over the years, and in looking at our casualty records, which really, if you want to call it that, it's the proof of the pudding—our pilots, countrywide, across-the-board, have a tremendously good record. We have thousands and thousands of transits of vessels of all types inside our waters with no accidents whatsoever.

You do hear once in a while of a case where something happens, where there's a mistake in judgment, or something goes wrong with the ship.

But essentially the qualifications that have been placed on the pilots—either by law, by regulation, by Federal or State statute, or by means of on-the-job training—have done a pretty good job, because our record is very good in this.

We do think it needs impovement. We do think that what Captain Stillwaggon says is very appropriate, particularly with the use of simulators, and a demonstration of capability of the individual, over and above what we have examined him for in the past, sir.

Mr. BURTON. The bar pilots in San Francisco, are they State pilots or——

Captain STILLWAGGON. State pilots.

In San Francisco, Mr. Chairman, you have a unique situation where you have the bar pilots as State licensed pilots; and inside you have your California Inland Pilots Association (CIPA) some of whom are State pilots and the rest are Federal pilots. They bring the ship further into port; then in some cases turn it over to a docking master from the tugboat company. So the ship can see three pilots from sea to dock.

Admiral BENKERT. It can also see one more, Mr. Chairman. If he's going up to Stockton or Sacramento in San Francisco Bay he gets a fourth one aboard, a river pilot.

Captain STILLWAGGON. The pilot situation is a mixed up thing. We've been living with it a long time.

I can't agree more with the Admiral that the American pilots all over the country have a very good record.

I have worked over in Abu Dhabi, and I have worked in Quebec on consulting jobs. I think the American fellows are probably the best ship handlers.

Mr. Burton. I have no further questions.

Do you want to ask any questions?

Mr. Butterworth. Thank you, Mr. Chairman.

Captain Stillwaggon, I know this is not the direct subject of your testimony, but I think that for the benefit of the record and the committee, you might be able to offer some observations about the general level of training and qualification among both American and foreign crews. We're not talking about pilots, but about officers and crews on board tankers. You have obviously piloted many tankers into U.S. ports and might have some impressions to offer.

Captain Stillwaggon. Yes. Of course, that's not my bag——

Mr. Butterworth. I realize that.

Captain Stillwaggon [continuing]. But I have met, in the course of my 30-odd years in the business, I have met a lot.

The American trained seaman today generally is out of one of the school ships, Kings Point, Fort Schuyler, Massachusetts Maritime. et cetera. California State Maritime School. These are all very good men who have good training while they're in this school.

When they come on the ships, if they happen to get into the right group of older men, then they do get very good training on the job.

Foreign ships are so diverse in their qualifications that it would be really difficult to pin anyone down.

As we know the last few months have been Liberian/Panamanian free-for-all time.

I cannot say that every one of those ships is not fully qualified. I have in mind one ship right now that I'm thinking of, a 285,000 ton VLCC that I've taken into St. Croix quite often. Liberian registry. Top notch crew, among the very best. I've also been on other flag vessels where they don't have it.

It's true that there are ships on the seas who do not have qualified ships' personnel—but how can you class them?

I was on the *Argo Merchant* years ago when she was known as the *Vari*. I wasn't impressed with the ship then, but how do I know, as Admiral Benkert says, how do we know that when they do leave port they don't correct these things that we did find fault with at that time?

It was suggested at that Philadelphia seminar a couple of years ago that pilots should go aboard the ship and make an inspection. Well, that word is so broad—inspection. All I want to know is will the engine run, will the telegraph operate, will the rudder work, does it have lights, does it have radar, and so on. I don't want to have to go down and through the ship and see it.

That's why I suggested that something similar—this particular piece of paper [indicating] is the Chevron Oil Co. master pilot information sheet. It's a very handy piece of paper. I should think that if I was to carry a paper aboard, something like that, aboard the ship and present it to the captain before we move inland—if he certifies to me that all his equipment is in good working order—and we could put into that any questions that are required to make this somewhat binding. If he signs that the onus is then upon him completely to show that he did give us the honest answers before we brought the ship into our water.

I don't think there's any way of going offshore. You could helicopter a couple of inspectors off, 20 or 30 miles offshore and then start him in the harbor. Then maybe you could have an engine break down that has nothing at all to do with the inspection.

Mr. Burton. What problems do you run into—and you mentioned it before—on foreign-flag ships as far as the communication is concerned? In other words, the captain may well speak English. Maybe you're giving an order and he may give it to the person down in the engine room who may already have his written Italian instructions, or whatever. How do you deal with that?

Captain Stillwaggon. Well, the case I was pointing out was a recent case where a pilot was bringing a ship into a harbor. As he entered in between the buoys and he asked for half ahead from full ahead, he noticed that nobody had pulled the telegraph in the wheelhouse. He called in and he said, "I just said half ahead." The man said, "The telegraph isn't working."

In the meantime somebody had gone to the—on the after bulkhead there is a telephone. They ring it and the man down below answers. In most cases they have to shout into it because of the noise of the engine room.

He shouted down what was supposed to be half ahead and only if you know the language do you know if he did say half ahead.

Then when you get into the nitty-gritty, when you're down in a tight spot, do you know whether he does say slow ahead when you say it, or does he panic out and say maybe stop?

This kind of ship—I would be very careful before I would start such a ship into a harbor.

Mr. Burton. What's the telegraph? Is that the thing you always see in movies where they——

Captain Stillwaggon. That's right. "Damn the torpedoes, full speed ahead"—that thing.

There is a speaking tube to the engine room, and there is a telephone to the engine room.

In my opinion, that makes the ship unseaworthy.

For instance, if on this sheet, the information sheet, you could have a statement from the captain that the steering gear was tested and found in good shape.

Now what I do in most cases before I approach a dock I maneuver the ship in the open water off the dock, and I make sure that she will go astern.

In the past I had one ship where when I said I wanted this ship to go astern—it was a German ship, and he said, "Keine luft"—which turns out to be, "we don't have any air" for the diesel engine. I didn't know that at the time, so my only out was to let go an anchor and try to stop the ship. But if he had given me a piece of paper that said he has no air, then I would have had several tugboats made fast to the ship long before I got to the berth.

And I think it's a very simple thing. This thing is made up with the characteristics of the ship, the propulsion, the manuevering speeds, and so on. We could have something like that which would guarantee that pilot that the ship he is on does have all the equipment. Don't wait until you get inside the harbor and find out that the radar doesn't work, or something like that.

Mr. Butterworth. One further question. Are pilots always required to be on both foreign-flag and U.S.-flag vessels when they enter U.S. ports? Are there any instances in which foreign-flag or U.S.-flag tankers enter our ports without a pilot?

Captain Stillwaggon. U.S. vessels may not enter a port without a pilot—State or Federal; but foreign vessels may.

The way most of the State laws are written, you are required to pay for a pilot. It's not necessary to absolutely have a pilot on—and right today in Long Island Sound there are ships running in and out of there, foreign ships, without pilots, because the State laws are a little vague about who has jurisdiction.

Mr. Burton. So in other words, what they could do is pay the price of a pilot but not have the safety of having a pilot because maybe the pilot might be able to look around and figure out that it's an unseaworthy ship or it shouldn't——

Captain Stillwaggon. Well, actually, for instance, in Long Island Sound it's a very strange setup. The State of Connecticut has no law for pilots for Long Island Sound, but New York and Rhode Island both have such laws. The jurisdiction problem there, who owns what part of what water, is very mixed up.

There are steamship agents in the State of Connecticut who are telling their ships, foreign ships arriving, "You are not required to have a pilot." Those ships do come into New Haven entrance and to New London entrance without pilots.

Mr. Burton. We ought to do something about that, shouldn't we?

Captain Stillwaggon. I've been trying to.

Mr. Burton. Too bad Mr. Moffett isn't here.

Captain Stillwaggon. I was hoping that Mr. Moffett would remain because I have been in touch with a State Senator and a representative up there. I would like very much to see Connecticut cover the same area.

Not for myself, I'm well away from that kind of work. But I think the other fellows, the men who are working there, do deserve it. They deserve to be protected.

One of the agents told me that the ship he was bringing in was only a 400-foot ship and it shouldn't have a pilot but that same ship could run into an 80,000 ton tanker because he doesn't have a pilot. The fault is there—there should be a pilot aboard the ship. Someone who can direct it to where it should go.

Mr. Burton. I'll tell Mr. Moffett about this situation, and we will make sure that he gets in touch with you because he would be very interested.

Captain Stillwaggon. I'd be very happy to do whatever I could to help out in that regard, because it is a bad situation.

Mr. Burton. Well, it doesn't make any sense—for openers.

Captain Stillwaggon. No; it doesn't.

We're bringing pretty big ships into Long Island Sound now. I had one in recently, it was the biggest ship that has come in there so far, 121,000-ton ship drawing 55 feet of water. Now there's no problem at all with that ship. She is a fine handling ship. There's plenty of water underneath the ship in the whole passage.

Mr. BURTON. Some other ship could run into her; right?

Captain STILLWAGGON. That's it. An unqualified man coming in there could give me trouble, and we would have a problem.

Mr. BURTON. Do you have any more questions?

[No response.]

Mr. BURTON. All right. Thank you very much, Captain.

Thank you, Admiral.

The subcommittee will recess until 2 p.m.

[Whereupon, at 12:45 p.m., the subcommittee recessed to reconvene at 2 p.m., the same day.]

AFTERNOON SESSION

Mr. BURTON. The subcommittee will be in session.

The witnesses we have this afternoon are Mr. Leroy Fuller, Director of the Federal Maritime Commission, Bureau of Certification and Licensing; Mr. Robert Skall, Chief of the Office of Water Pollution Responsibility; and Mr. Jeffrey Bower, Legislative Counsel for the Maritime Commission.

STATEMENT OF LEROY F. FULLER, DIRECTOR, BUREAU OF CERTIFICATION AND LICENSING, FEDERAL MARITIME COMMISSION

Mr. FULLER. Thank you, Mr. Chairman.

I appreciate the opportunity to appear before your subcommittee to testify with respect to the policies and procedures of the Federal Maritime Commission with regard to certificates of financial responsibility, issued pursuant to section 311 of the Federal Water Pollution Control Act (FWPCA).

I am accompanied by Mr. Robert M. Skall, on my right, chief of our Office of Water Pollution Responsibility, and Mr. Jeffrey M. Bower, on my left, legislative counsel in the Commission's Office of General Counsel.

In your letter to Chairman Bakke of March 2, 1977, you indicated particular concern with our procedures for the initial issuance of certificates, for subsequent Commission review to determine their continuing validity, and for cooperative practices with the U.S. Coast Guard to insure that each vessel entering U.S. waters possesses a valid certificate. I will first address our procdures for initial issuance of certificates to vessels.

Under the provisions of section 311 of the FWPCA, all vessels over 300 gross tons operating in U.S. waters, with very minor exceptions, are required to evidence financial responsibility by way of insurance, bonds, or self-insurance for oil removal cleanup liability to the U.S. Government. By Presidential designation, the Federal Maritime Commission is the agency charged with carrying out the financial responsibility requirements of that act.

I should point out that this Commission's jurisdiction and authority under the FWPCA is limited to the rquirements of section 311(p)(1) of that act, and we therefore implement solely the financial responsibility and certification requirements. We are not directly involved in the matter of enforcing any claims which may be made by the U.S. Coast Guard and the Department of Justice.

We are sometimes called upon, however, by the Coast Guard or the Department of Justice to render assistance in the event a claim is to be made against a vessel owner or operator or an underwriter with respect to a particular oil spill. We are able to furnish these agencies the detailed information we have with respect to the owner or operator, to identify the underwriter who has furnished the evidence of financial responsibility with respect to the vessel, and to furnish them names and addresses of U.S. agents for service of process appointed by the owner or operator and by the underwriter.

In order to carry out its certification responsibilities, the Commission has promulgated detailed regulations—General Order 27, 46 CFR part 542—setting forth the procedures by which the evidence of financial responsibility for each vessel, as required by the act, must be established. Such evidence is required to be in the amount of $100 per gross ton or $14 million, whichever is the lesser. and usually is established in the form of insurance designed to reimburse the U.S. Government for costs incurred in the removal of oil discharged into U.S. waters.

The Commission's regulations also provide for the certification of vessels that have complied with the financial responsibility requirements, and establish the basis for denial, revocation, modification, or suspension of certificates. No vessel over 300 gross tons is authorized to use U.S. waters without carrying a valid certificate and presenting such document or copy thereof, upon request, to authorized enforcement officials. Each certificate indicates the name of the vessel, the name of the certificate owner or operator, the date of issuance, and the certificate number.

Under section 311(p) (5) and (6) of the FWPCA, the U.S. Customs Service may refuse clearance of such vessels, if they do not have evidence of compliance with the financial responsibility requirements, and the U.S. Coast Guard may deny entry to, or detain within U.S. waters, vessels which do not produce evidence of compliance. In order to determine whether a particular vessel is in compliance, the two aforementioned enforcement agencies must ascertain whether there is a proper certificate on board issued by this Commission. To coordinate the responsibilities of these enforcement agencies with the certification responsibilities of this Commission, we have established a compliance and enforcement program.

In the course of issuing and reissuing thousands of certificates to vessels throughout the world, precipitated by such factors as initial certification, sale of vessels to new owners, and return of chartered vessels to the owners, it was found that many vesesls might be in compliance with the financial responsibility requirements of the law, yet not have valid certificates on board. This situation arose primarily in three circumstances:

First, when a certificate is issued and mailed to the owner or operator, or its agent, abroad, postal delivery time itself may cause delays in reaching the addressee. Moreover, the vessel might be at sea, and substantial additional time would be involved in actually getting the certificate to a port where it could be placed on board.

Second, an application for a certificate might be pending under circumstances where the proper insurance was in effect covering the vessel, but the process of completing the issuance and mailing of the certificate had not yet been completed.

Third, issued certificates may have been misplaced or lost.

Under these conditions, despite good faith efforts on the part of vessel owners or operators, the enforcement agencies might detain and/or substantially delay vesels which were, in fact, in substantial compliance with the financial responsibility requirement of the FWPCA.

To resolve this problem, the Commission and the enforcing agencies have developed a quick response compliance and enforcement program, and the Commission has established an automatic data processing (ADP) system operated in conjunction with manual procedures. As a result, we have the capability to immediately advise the enforcing agencies whether a particular vessel has been issued a certificate or, if not, whether it is in substantial compliance, although issuance of the certificate is still in process. This is accomplished by running an ADP printout every 2 weeks, which shows all certificated vessels and all pending applications. The status of all pending applications and changes which occur between ADP printouts can be quickly determined by manual procedures. Under this system, the FMC can provide the enforcement agencies with quick response as to the compliance status of any vessel which does not have an apparently valid certificate on board.

The Commission and the enforcement agencies have been continuously improving upon these coordinated procedures to assure that the interests of the United States are protected, but that vessels are detained no longer than necessary. For example, the Commission has assigned duty officers on Saturday and Sunday during business hours in order that our response capability to enforcement inquiries is available 7 days a week.

As an example of how this program operates, during the 15-month period from July 1, 1975, through September 30, 1976, 1,723 compliance inquiries were received. These inquiries involved situations where there was no certificate on board or where the name on the certificate did not match the names of the vessel or the owner or operator. In all but 76 instances, the Commission immediately found the vessels to be in compliance and relayed that information, so that the vessels were not delayed. In 76 cases, delays ranging from a few hours to a number of days occurred until either the vessels were confirmed by the Commission to be in compliance, or proper insurance or bonds were furnished to the Commission. Without our coordinated enforcement procedures, all 1,723 vessels would have been delayed for varying periods of time.

I will now turn to the additional issues raised in your letter concerning continuing validity of issued certificates and our cooperative efforts with the Coast Guard to insure that vessels entering U.S. waters have valid certificates.

In the course of dealing with our continuing certification process, which involves constant change in the status of previously certificated vessels, many such certificates are revoked. While the Commissions' regulations require that the original certificate be returned upon revocation, and in each case we write to the certificant requesting the return of such revoked certificate, it is our best estimate that approximately 30 percent of such certificates are not returned.

Since many of the vessels operate throughout the world, and are owned and operated by foreign based companies, it is virtually impossible to accomplish the return of all such certificates. In any event, return of an original certificate would not be an absolute assurance that a revoked certificate could not remain on board, because the Commission's rules provide that either the original or a copy of the certificate be carried on board a vessel.

We have, therefore, been concerned with the possibility that some vessels with revoked certificates could continue to operate, and might even enter our waters with a revoked certificate on board which, on its face, appears to be valid. However, we believe it is unlikely that significant numbers of these vessels would enter our waters with revoked certificates which would not be recognized as invalid by the enforcement agencies.

Over the last 2 years, the Commission has revoked approximately 190 certificates per month, and notices of revocations are published in the Federal Register approximately every 2 weeks. In most instances either the underwriter or the party certified informs the Commission, in the ordinary course of business, of the reasons leading to the revocation.

The most frequently encountered reasons are that such a vessel has been involved in either (1) a change in vessel name, (2) a transfer to a new owner, (3) a return of a demise chartered vessel to the owner, which would mean either subsequent operation by such owner or by a new operator, (4) a sinking of the vessel, or (5) a scrapping of the vessel. It is our best estimate that less than 10 percent of revoked certificates are not accounted for in these ways.

If a vessel's name is changed and the revoked certificate were kept on board, a comparison between the vessel's name on the vessel's papers and the vessel name on the revoked certificate would immediately indicate to the enforcement officer boarding the vessel that the certificate might be invalid. If a vessel has been sold to a new owner, a similar comparison between the owner's name on the vessel's papers and the name on the revoked certificate would indicate that the certificate might be invalid. If a vessel had been returned by a charterer named on the certificate to the owner, again, a comparison between the vessel's papers and the name of the charterer who was certified would indicate that the certificate might be invalid.

Under all these circumstances, therefore, the presentation of a revoked certificate to enforcement officers should raise a question as to that certificate's validity. Upon inquiry to the Commission as to the validity of that certificate, the Commission would promptly advise such enforcement officers as to the current status of compliance of that vessel.

We do recognize, however, that there are some revoked certificates which are not accounted for in the foregoing ways and which could remain on board the vessel without raising any questions as to their validity. However, we believe that any such instances are rare. Over the past few years, the staff dealing with these matters on a day-to-day basis has received inquiries from the Coast Guard regarding actual oil spills by vessels in U.S. waters. These have averaged approximately

3 per week and have encompassed very small spills of as little as a few gallons, up to some of the major spills which have attracted national attention. In these oil spill inquiries, the enforcement officer identifies the date of the spill and advises the name and owner of the vessel. This Commission then informs the enforcing agency of the name of the underwriter, the name and address of the U.S. agents for service of process, and any other relevant information requested by the enforcement agency.

Based upon our experience in these hundreds of inquiries over the past few years, we have yet to encounter a stiuation where the vessel causing the spill was in fact operating under a seemingly valid certificate which had been revoked. This further supports our belief that there are very few instances of vessels operating in U.S. waters with revoked but seemingly valid certificates.

We recognize, of course, that there is always a risk, albeit small, in that such a vessel could cause a spill. To further minimize this risk, we have under consideration a procedure whereby all certificates would be reissued and bear a 2-year termination date. Thus, any certificate found on board a vessel which had been issued more than 2 years prior thereto, would be invalid on its face. In this manner there would be an automatic purging of all outstanding certificates every 2 years. While this would not eliminate every possible situation, it would periodically eliminate the use of any seemingly valid but revoked certificates. Such a recertification program would necessitate reissuance of approximately 1,000 certificates each month with 2-year termination dates.

Mr. Chairman, this concludes my prepared statement. I would be glad to answer any questions you and the other subcommittee members may have.

Thank you.

Mr. BURTON. Thank you very much.

Under the Water Pollution Control Act, requirement for evidence of financial responsibility—in part of that area you're not able to issue regulations because you have to wait for the Environmental Protection Agency to give you a list of other hazardous substances; is that correct?

Mr. FULLER. That is correct.

Mr. BURTON. And how long has FMC been hanging around, waiting to do something?

Mr. FULLER. I don't believe the act had a specific date by which EPA was required to do it.

Mr. BURTON. But I mean when the law was passed it was assumed they were going to do it, and it has been what—3 years?

Mr. FULLER. Yes, sir, approximately that.

Mr. BURTON. And you're still waiting.

Mr. FULLER. They have virtually completed their rulemaking proceeding, and we understand that they may be out with it almost momentarily.

Mr. BURTON. And then at that time you will be able to take action that you could have taken had you not had to wait for them?

Mr. FULLER. That's right. We will be required by the law to immediately undertake a total recertification program of all these vessels—to reissue new certificates after reviewing and approving new insurance covering hazardous substance cleanup as well as the present oil pollution.

Mr. Burton. Well, but you couldn't issue new certificates on oil until they complied with hazardous substances; right?

Mr. Fuller. We have the oil certificates issued. They have been out for many years. But we would reissue everything again to cover both oil and hazardous substances, as soon as the new list becomes effective.

Mr. Burton. You have numbered certificates?

Mr. Fuller. Yes, sir.

Mr. Burton Based not on the ship, but on the owner of the ship.

In the Federal Register, volume 42, No. 21, dated February 1, 1977, you list some certificates of financial responsibility on oil pollution. You have a certificate number, then you list the owner/operator and vessels.

I note, I guess dealing with the Soviet Union's fishing fleet—there's one certificate number and there's many different ships.

Mr. Fuller. That's correct.

The certificate number is an indicating code applied to each applicant. An owner may come in and cover 10 vessels. The number is assigned to that owner. Each of his vessels would have the same numbered certificate, but the certificates would bear the different names of each vessel.

Mr. Burton. Does it make sense to do it that way rather than having different numbers, or a number 06249A and 06249B for ships—rather than having one number for 26 different vessels?

Mr. Fuller. It is actually used in that numbering system to facilitate a couple of aspects of our ADP program, where we can identify a particular operator under that code number and print out every vessel covered by him, the status of every one, those previously revoked, and so forth.

It could be done the other way.

Mr. Burton. So for ADP purposes it's more efficient to do it this way. Is there a downside to doing it this way?

Mr. Fuller. I'm not sure there's a downside; but that was the reason it was set up. I don't think we've had a problem with that in dealing with the certificates.

Mr. Burton. If you get this 2-year certification, how much more staffing would you need? Have you figured out how much more money you're going to have to ask for that?

Mr. Fuller. Assuming we don't have to combine it with a total new recertification for hazardous substances, or possibly with the requirements of one of the new bills now pending in Congress which may pass, we have made requests both this year and last year for four additional people—which, hopefully, would be sufficient to proceed with that program alone.

Mr. Burton. Four additional people? That's all you need to recertify 1,000 ships a month?

Mr. Fuller. Well, when we say "recertify," it's really the reissuance of currently valid certificates, so it wouldn't involve a total recertification program in the sense of coming out with new rules, new evidence of financial responsibility, new applications.

Mr. BURTON. Well, you would have to have evidence that their insurance policy didn't lapse then, wouldn't you?

Mr. FULLER. Yes, that it was in effect on a current basis; and if the certificate was currently valid, we would just reissue that certificate with a 2-year terminating date.

Mr. BURTON. What benefit would it have to reissue it every 2 years, if all they're going to do is send them another piece of paper?

Mr. FULLER. It would be an indicator to the enforcing official. It would be a purging of all outstanding certificates, and if, by any chance, there had been a revoked certificate still on board under the same name and same operator, it would be wiped off the books and be a purging of those possible situations.

Mr. BURTON. In other words, really eliminate what is fraud?

Mr. FULLER. It could be; yes, sir.

Mr. BURTON. That is where they send you the revoked certificate and keep the true copy and have it on their ship—at least it would screen out that part?

Mr. FULLER. That's right.

Mr. BURTON. You talked about the 1,723 compliance inquiries received, and in all but 76 instances you were able to determine that they were in compliance almost immediately. Of the 76 other instances, did you find any that weren't in compliance?

Mr. FULLER. Yes, sir. The other than 76 would have been situations where the certificate had not yet gotten on board, it was in process or for some other reason it could not be confirmed from the ship's papers that the certificate was valid, but we could confirm back on the identification of the owner/operator and the name of the vessel, that a certificate had been issued for it, or that it was in compliance.

The 76 instances were either based on faulty information furnished us in the first report, from which it did not appear to us that that vessel was covered, or it had no certification whatsoever. We may never have heard of it.

If they referred to us a misinterpretation of the name of the owner but later furnished the correct name, we might find that it really was in compliance.

With respect to most of the 76, it would have been noncompliance. The vessel would have been held, detained, until they came to us with adequate acceptable insurance, or until we received the information identifying the responsible party to be covered by insurance.

Mr. BURTON. Out of that 76, how many of them were in noncompliance?

Mr. FULLER. The great majority of them would have been in noncompliance; yes, sir.

Mr. BURTON. Thank you.

Mr. Hightower?

Mr. HIGHTOWER. I have no questions.

Mr. BURTON. Any questions?

Mr. ROMNEY. Thank you, Mr. Chairman.

Mr. Fuller, of those who were not in compliance, were there any cases when fines would have been assessable?

Mr. FULLER. You're referring to the $10,000 fine in the statute?

Mr. ROMNEY. Yes.

Mr. FULLER. I believe the statute reads up to a $10,000 fine for violation of the act or regulations.

I believe technically a criminal fine could have been assessed in those violation cases.

Mr. ROMNEY. Do you know whether at any time such fines have been assessed?

Mr. FULLER. I don't know of any. Our theory and practice from the beginning has been that we have a much more effective way to deal with the problem. By holding them in detention, some of these vessels lose $10,000, $15,000, or $20,000 a day when they are sitting. We force relatively quick compliance by the furnishing of acceptable evidence of financial responsibility; therefore, while it's still in our waters we are getting it quickly covered by insurance in the event there should be any kind of a follow-on spill.

Mr. ROMNEY. Of the number of ships about which questions were raised, the 1723 figure, in how many instances were the questions raised by the Customs Service?

Mr. FULLER. I don't think I could give you that exact number. My understanding is that the majority of these came from Coast Guard, some from Customs.

Mr. ROMNEY. Are the figures available as to how many were Customs Service?

Mr. FULLER. Yes; we could identify those for the record.

[The information follows:]

Of the 1,723 enforcement inquiries received by the Federal Maritime Commission from July 1, 1975 through September 30, 1976 the following is the breakdown among U.S. Coast Guard, U.S. Customs Service and the Panama Canal Company:

U.S. Coast Guard	780
U.S. Customs Service	940
Panama Canal Co	3
Total	1, 723

Mr. ROMNEY. On page 3 of your statement, Mr. Fuller, you speak of furnishing the agencies concerned detailed information with regard to the owner or operator. Can you give us some examples of these kinds of information? After that, can you tell us whether all this information is publicly available?

Mr. FULLER. All right.

We may get a call from a Coast Guard official in the general area where a spill occurred. He will identify that there has been a spill, that it involves X vessel and will inquire whether it is covered. He has a complete spill report.

We would first ask whether the vessel has a certificate. He would confirm that it did—the name of the vessel, the owner and/or operator—and we would confirm whether that certificate was valid for that owner and/or operator.

Then he may ask us who is the agent for service of process in case of a claim, or who is the underwriter in the event of a claim?

We would give him all that information so he would have a total file available with respect to any possible claims under that spill.

Mr. ROMNEY. As to the availability of that information, that is all generally available?

Mr. Fuller. That would be generally available with respect to any vessel that anybody required.

Mr. Romney. The format that the Commission uses in publishing a list of certificates revoked is interesting. For example, here is one on page 55577 of volume 41 of the Federal Register. That is December 21, 1976. It refers to certificates revoked, and then says, "This is a notice of voluntary revocation."

The law provides for cancellation, suspension, and so forth. The term "voluntary" suggests that these were voluntarily given up by the owner or the operator with respect to this particular vessel.

Could you clarify what is meant by the term "voluntary"? I gather, these lists include those which the Commission may have initiated affirmative action on.

Mr. Fuller. I believe the use of the word "voluntary" may not explain the real character of the revocation.

The vast majority of these revocations, as I previously testified, would involve sale to a new owner, return of a chartered vessel to the owner, change in the name, various reasons why the certificant was no longer responsible and some new person would become responsible for that vessel.

This may be a cancellation of the insurance.

In each of those instances, our rules provide that the certificate, under those circumstances, becomes null and void.

In the great majority of these cases it is really a confirmation that an act has taken place which has made that certificate no longer effective and it has become null and void.

Mr. Burton. Well, why do you use "voluntary"?

Mr. Fuller. I think the word "voluntary" was probably intended to mean it was the result of some voluntary act by the certificant of having sold the vessel, or of no longer being responsible—as distinct from some affirmative enforcement action by the agencies to force a revocation.

Mr. Burton. Like if you voluntarily don't pay your insurance policy.

Mr. Fuller. It's an automatic thing, rather than an act of the agency. "Voluntary" is probably not the most descriptive term.

Mr. Romney. Mr. Fuller, taking this list which the chairman referred to earlier, this is a list of certificates issued, and then the list which I referred to, which is a list of certificates revoked—how recent are these issuing and revoking actions?

Mr. Fuller. The revocation list is published approximately every 2 weeks.

Mr. Romney. So that the Coast Guard or any other interested party, by compiling a list of these, could, in effect, be apprised of every dead certificate; then in the course of whatever examination was required, could easily make a cross-check of this?

Mr. Fuller. I believe physically it could be done.

Mr. Romney. Do you know if it is done?

Mr. Fuller. I don't think so. Of course there is a built-in lag factor in our preparation, in publication, and so on.

I believe there is another problem. Again, recognizing that the great majority of those vessels are ultimately accounted for as having been sold, returned to owner, name changed—that under that certificate name they will not appear again. If that vessel comes in, it will have an apparently invalid certificate on board. So in the great majority of cases, it would not require reference to that list for the enforcing officials to identify that vessel coming back in, even with the old certificate, as having an actual invalid certificate on board.

Mr. Romney. Well, a revoked certificate on board would not be automatically recognized as such, would it?

Mr. Fuller. The great majority of them would, because of having been sold to a new owner.

Mr. Romney. Those indicators would be elsewhere in the records of the ship?

Mr. Fuller. Yes, sir. They would be in the records of the ship—and the matching of the records of the ship with the name on the certificate would indicate that it's invalid.

Mr. Romney. But there are still some cases where a photocopy was retained, and the original not returned——

Mr. Fuller. Or even the original; yes.

Again, in any of our dealings we have not uncovered a single instance where we're aware that a revoked, but seemingly valid, certificate was carried.

Mr. Butterworth. Mr. Fuller, on page 9 of your statement you say that approximately 190 certificates are revoked each month, and that in these cases the underwriter informs the Commission, in the ordinary course of business, for certain reasons—and these include, of course, change in vessel name, transfer to a new owner, return of chartered vessel to the owner, et cetera.

I believe we heard Monday from Mr. McKenzie that changes in ownership and vessel name are often clear indications that you have a "bad" or high risk vessel.

My question to you is this. If you have records which are maintained over a series of years, could not those records be examined to determine how often a particular vessel's name or ownership has been changed?

Mr. Fuller. Changed from owner to owner?

Mr. Butterworth. Or change of vessel name.

Is that possible?

Mr. Fuller. I think it would be possible.

There is a custom, particularly in the foreign area, where vessel owners and operators like to have a company or a house pattern of names. Any operator who buys a new ship, or charters a new ship, may use a house name, such as, if you recall, the *Argo Merchant.* There were a series of 10 or 12 vessels all having similar names.

I think many of these name changes are so constant that I don't know that we could develop a pattern of high risk vessels.

Mr. Butterworth. My point is—could not the Coast Guard come to you and say, "We have a vessel with this particular name and under this particular ownership. Can you go into your computer system and tell us how often over the last 4 years this vessel has changed names and owners?

Mr. Fuller. What occurs sometimes is that when they come back in to be recertified under a new name, they will say the ex-; otherwise, we wouldn't necessarily, with respect to that particular vessel, have the old name.

Mr. Burton. If I own a ship and it's the *Argo Merchant*, and I sell it or change the name and get it recertified as the *Fargo Merchant*, don't I have to put that information into you?

Mr. **Fuller**. Absolutely—if it came back in under the same name.

Mr. **Burton**. No. If it didn't. It came under a different name. I don't have to give you my aliases because that wouldn't really be relevant to your responsibility?

Mr. **Fuller**. No; it would not. But as I say, some of them come in where the name has been changed, and they do say ex-*Argo Merchant*, now the—whatever.

There is one thing with respect to Coast Guard programs. The Coast Guard has expressed an intention, apparently, to identify tankers which have some history or record of accidents, spills which might identify them as having a danger of possible spills.

If the Coast Guard got to the point where it could identify vessels of great concern to it as it pointed out, it would inspect them particularly.

We could work with Coast Guard and arrange a system whereby with respect to such a vessel, it could double check with us, even if there appeared to be a valid certificate on board, and we could confirm it, as of that date, the name of the owner and/or operator, the name of the vessel and so forth, in order to avoid any possible situation where there might be an invalid, but apparently valid, certificate on board.

Mr. **Burton**. I guess the financial responsibility would be that they show you the type of insurance coverage they have?

Mr. **Fuller**. They send us either a guaranty bond or insurance form.

Mr. **Burton**. What if they change companies?

Mr. **Fuller**. The commission's rule provides for, "an insurance company acceptable to the Commission," and we have approved only the large P and I clubs that are recognized worldwide, in general the London area, the Scandinavian clubs, a highly respected Japanese club, and some large insurance companies in the United States. We don't accept some unheard of companies from Panama or Liberia. We just do not accept them.

Mr. **Burton**. What if over a 3-year period they had gone from Lloyd's of London to Lloyd's of Scandinavia, to Lloyd's of Yokohama? Do you have that type of record?

Mr. **Fuller**. We would know that.

Mr. **Burton**. And do you feel that that means anything?

Mr. **Fuller**. That seems to be a pattern of many of these world shipowners. I think they dicker—cost-wise and service-wise—between these clubs. They have quite a bit of clout in moving from one of the P and I clubs to another, possibly getting a lower entry fee, less calls for claims.

Mr. **Burton**. But if they've got a clean record and they're with the same company, there would probably be no reason to change companies, would there?

Mr. **Fuller**. They move to another company because they negotiate a lower entry fee and lower premium.

It is a very customery thing to periodically change between the clubs.

Mr. **Romney**. Mr. Fuller, the regulations provide for an application fee for a certificate of $100, then certification fee based on gross tons.

Can you supply us with the amounts of these fees collected for the past 3 years? Do you have that information?

Mr. FULLER. Yes, sir, we can furnish that for the record.

Mr. ROMNEY. Could you comment on this point? To what extent do these fees cover the cost of administering the program?

Mr. FULLER. I think the best answer I can give to that is at the time the Commission went to the user fee process, there was some analysis made. There are different fees. There is an application fee. In addition, for each certificate issued there is a fee based on the tonnage. It is my best recollection that the proper procedures to evaluate that to the cost of those services were followed.

Mr. ROMNEY. When was that evaluation made?

Mr. FULLER. In December 1970.

[The information follows:]

The following are the estimated expenditures and collections for the Federal Maritime Commission Water Pollution Responsibility program for the fiscal years, 1974, 1975, and 1976:

Fiscal year 1974:	
Estimated expenditures	$304,936
Fees collected	147,138
Percent of expenditures	48.3
Fiscal year 1975:	
Estimated expenditures	340,797
Fees collected	150,485
Percent of expenditures	44.2
Fiscal year 1976:	
Estimated expenditures	367,305
Fees collected	156,564
Percent of expenditures	42.6

The foregoing expenditure and income figures were furnished by the Commission's Office of Budget and Finance.

Mr. ROMNEY. Could you also clarify for the record the significance of the $25 maximum fee for each vessel, and the $1,000 maximum total certification fee? The $25 fee, of course, is for 30,000 gross ton vessel.

Mr. FULLER. That's the highest per vessel fee.

Mr. ROMNEY. Then there is the second level—maximum of $1,000. This would apply, I take it, to an owner or operator under one certificate number; is that correct?

Mr. FULLER. That's right.

Mr. ROMNEY. So that he might have any number of ships, but still not have to have a certificate fee more than $1,000.

Mr. FULLER. Once he reaches the $1,000 level, that's the maximum certificate fee.

Mr. ROMNEY. To what extent do modifications of the certificates entail additional fees? If you modified a certificate, a name change or something.

Mr. FULLER. A name change—reissuance of a certificate because of a name change. Lost certificate. Mutilated certificate. Adding new vessels to their fleet. Coming in with a new application to cover a new vessel. Whatever procedure results in the issuance of a certificate.

Mr. ROMNEY. Then the fee is assessed?

Mr. FULLER. That's right.

Mr. BURTON. Thank you very much.

Mr. FULLER. Thank you, Mr. Chairman.

Mr. BURTON. Without objection the following items will be made part of the record:

The letter and report of the Tanker Advisory Center, the GAO information on the two charts, the responses by the Coast Guard to questions dated February 9, 1977, and a letter from the Department of Justice received March 22 and the pertinent information that was attached to that.

[See appendixes.]

Mr. Burton. Mr. Ledebur, Chief, Admiralty and Shipping Section; and Mr. Ghiorzi, Chief of the Pollution Control Section, Land and Natural Resources Division of the Department of Justice.

STATEMENT OF ALFRED T. GHIORZI, CHIEF, POLLUTION CONTROL SECTION, LAND AND NATURAL RESOURCES DIVISION, DEPARTMENT OF JUSTICE; ACCOMPANIED BY LAWRENCE F. LEDEBUR, CHIEF, ADMIRALTY AND SHIPPING SECTION, CIVIL DIVISION

Mr. Ghiorzi. Since the prepared testimony and the statistical information has been made a part of the record, I would just like to submit an addendum to the statistical information. It is in the nature of an addition to table II, subsection B—the final column wherein we note that the amount collected in cleanup costs for on-shore or off-shore facilities amounted to $519,551.28. We would like to indicate that that total represents the settlement or judgment in 10 cases, and that the Coast Guard's claim in those 10 cases totals $684,758; and that the amount collected represented approximately 70 percent of the cleanup expenses incurred by the Coast Guard.

Now, within the Department of Justice, the Civil Division and the Lands Division are responsible for conducting litigation pursuant to Section 311 of the Federal Water Pollution Control Act.

The Admiralty and Shipping Section of the Civil Division handles all litigation involving claims concerning vessels; that is, civil penalty claims assessed against owners or operators and claims for the recovery of Federal funds expended in cleanup expenses where the oil originated from the vessel.

The Lands Division conducts and supervises the litigation involving claims and suits for the recovery of funds where the oil originated from an on-shore or off-shore facility.

Both the Civil Division and the Lands Division have delegated to the U.S. attorneys the authority to conduct the litigation involving the assessment and collection of civil penalties. Thus, that litigation is conducted by the approximately 95 or so U.S. attorneys. These individuals also have the authority to settle and compromise those claims without the prior approval of either the Lands Division or the Civil Division.

Mr. Burton. That's this chart over there, right [indicating] fines and penalties?

Mr. Ghiorzi. On penalties, I would say; yes, that would be that chart.

We're talking about the recovery of Federal funds——

Mr. Burton. That's the chart over here [indicating]?

Mr. Ghiorzi. That's correct.

Now with respect to, for purposes of discussion, the chart on my right, as I indicated that litigation is handled by the U.S. attorneys.

With respect to the chart on my left, the Admiralty and Shipping

Section of the Department will handle the litigation where it involves a vessel, and not the U.S. attorneys.

On the other hand, where the claim arises from a spill and it involves an on-shore or off-shore facility, the U.S. attorneys will also handle the ligitations involving the recovery of the Federal funds expended. In those cases, the U.S. attorneys are not authorized to settle those cases without the approval of the Assistant Attorney General in charge of the Lands Division.

Mr. BURTON. Over here—as far as the fines and penalties are concerned, we collect about 85 percent. I would assume that the 15 percentile difference is due to compromise?

Mr. GHIORZI. I don't think that chart relates to the fines referred to the U.S. attorneys.

Mr. BURTON. All right. We'll move over to this one. Before we get into the figures, is there authority to have settlements or to compromise releases of claims? Say there's a claim against a company because it cost our Government $500,000 to clean something up. They dispute and say they only are willing to pay $200.000, and you might end it out at $350,000, if approved by the Assistant Attorney General.

Mr. GHIORZI. That's correct.

Mr. BURTON. Do you know approximately what percentage of claims are dealt with in that manner, as opposed to——

Mr. GHIORZI. With respect to on-shore or off-shore facilities we have 45 referrals, and we have concluded 10. Of those 10 which we have concluded, we went to trial in approximately 4 cases and we settled 6 through the medium of negotiation.

Mr. BURTON. And the rest of them are——

Mr. GHIORZI. Are still pending. The remaining 35 are still pending.

Mr. BURTON. As I understand it, dealing with the chart on your left and my right, the fund charges by year of incident are in effect the amount of money the American taxpayers have paid to clean up the mess. Is that a true statement?

Mr. GHIORZI. Yes.

Mr. BURTON. All right. Then the next column is what they have assessed or billed to, shall we say, the perpetrator of the mess, which in all instances is, in 1976, significantly below what the taxpayers put out. Then as you get into what has been collected, again it is significantly below what at least the perpetrators were billed for.

Is it safe to say that the difference between the $13 million and almost $2 million is some compromise and release, but the rest is pending outcome in litigation?

Mr. GHIORZI. I don't think that would be entirely accurate. With the vast amount of claims involving vessels—none of those suits have actually been settled, so therefore none of the cleanup claims have been compromised.

With respect to the litigation involving expenses incurred where the pollution originated from an on-shore or off-shore facility, the amount of claims compromised by the Federal Government, I submit, is relatively low.

The number of cases declined were three; and the amount of money involved was approximately $110,000.

In those four cases which were compromised, the Government recovered more than 70 percent of the claim.

I don't think that the difference in those figures necessarily reflects what's in litigation, or that the Department of Justice has somehow compromised.

Mr. Burton. Well, I'm not knocking the fact that when you look at everything you probably can save money by compromising rather than by going through the time and effort of getting a judgment in court. I'm not in any way criticizing the ability to do that, or the fact that it has been done. In all probability it has been done wisely from the legal standpoint and the standpoint of the taxpayers funds.

But I look at $36 million and I look at collections of $2 million, I see a great disparity there. The Coast Guard is going to let us know what part of that $36 million didn't even get assessed or billed to the perpetrator of the incident due to the fact that they didn't know who to assess it to, or that the amount exceeded the liability limits.

But the collection rates—I'm just wondering whether the process is all that long. What would it take, assuming I had a ship and caused tremendous damage, and I decided to go to court rather than pay up? What would it take—about 3 or 4 years before you get the judgment?

Mr. Ghiorzi. I think perhaps Mr. Ledebur can answer that question, since the cleanup claims involving vessels referred to Justice total $16 million. That's obviously the lion's share of the amount of claims outstanding.

Mr. Ledebur. I would say at least 3 years.

Mr. Burton. What's that, a regular court trial?

Mr. Ledebur. Yes; but the real reason——

Mr. Burton. And they go to appeal and everything else? I guess if they had a lot of money they would exhaust every remedy; right?

Mr. Ledebur. That's one of the reasons, because these involve a lot of money. The other reason is that they almost always involve some other entity. In other words if the vessels grounds, *Argo Merchant*, it desperately looks around for a cause beyond itself. A buoy off station, a bad weather report, another vessel which embarrassed its navigation.

Almost all of this litigation involves the United States, the polluting vessel, and one or more other entities, all of whom are trying to ease their liability off on——

Mr. Burton. On someone else.

This may be an unfair question. Looking even from 1971, it's not that many dollars, $286,000; out of that they only billed people for $17,000 and only collected $5,000. Is it even worthwhile to try to pursue it in court?

Mr. Ledebur. Yes, while we show no collections on here, in fact we are about to collect $2½ million in a single claim.

Mr. Burton. How old is that claim?

Mr. Ledebur. I believe the incident occurred in 1974.

Mr. Burton. You went to trial and you were in discovery, or——

Mr. Ledebur. No. The litigation is still going on. It will be at least another year before the trial; but fortunately we were able to prevail on Tovalop & Cristal to come in and voluntarily pay it.

Mr. Burton. In other words, they're bailing out for that because they might get stuck for more?

Mr. Ledebur. No; that's the total amount of our claim.

Mr. Burton. So when it's all over, at least it's paying its way?

Mr. Ledebur. Oh, I don't think there's any doubt about that.

Mr. Burton. It pays at least its way in attorney and administrative costs?

Mr. Ledebur. You can do an awful lot of attorney work, if you're on a salary, for $2½ million.

Mr. Burton. If you start back, and you think of all the 1971 cases that would have been settled or adjudicated; beginning in 1976 where the big chunk is, how many of those are in litigation?

Mr. Ledebur. I can't correlate that chart with my experience. For example, under 1976 there it shows billings of $1,676,000. On vessel pollution we have for that year $1,285,000. The difference may be——

Mr. Burton. Billings?

Mr. Ledebur. Not billings. We have cases referred to us by the Coast Guard for litigation.

Mr. Burton. For only how much?

Mr. Ledebur. For 1976, $1,285,000.

Mr. Burton. It would be interesting to figure out how all of that relates to everything else.

Mr. Ledebur. Well, here again, it's very difficult to correlate. I don't know whether that chart is based on the year of the incident or the year the Government finally determined its cost.

For example, I show the first 2 months of this year over $9 million. Actually what that represents is a major spill on the St. Lawrence Seaway system which the Coast Guard still hasn't finalized as far as amounts go, but on which I had to file a complaint and I had to come up with some figure.

Mr. Burton. As I understand it from the Coast Guard's testimony, they make a finding. Let's say the *Argo Merchant* was in even closer. They make a finding, they say that it costs the taxpayers this much to clean up the results of the mishap. They go to the owners of the *Argo Merchant* and say, "Here it is, $6 million." *Argo Merchant* owners say, "Not from us." Then the Coast Guard would turn that over to you to proceed legally?

Mr. Ledebur. It could happen that way, but in actuality it rarely would.

Mr. Burton. Well, how does it happen?

Mr. Ledebur. Following an incident the owner of a vessel almost always gets into a Federal district court as quickly as he can and follows a limitation of liability suit forcing everyone, private citizens as well as the Government, who has a claim arising out of that incident to file his claim in that one Federal court proceeding.

Mr. Burton. Under the provisions of what law would he file the——

Mr. Ledebur. The Shipowners' Limitation of Liability Act.

Now the Government would say, and quite correctly, "Our claim isn't subject to limitation under that statute because the FWPCA has its own built-in limitation."

We are filing this claim simply because the court has enjoined a separate suit by the United States. Besides, the ability of our claim to some extent is going to be resolved by determinations of fault made by this court.

For example, we are a claimant in the *Argo Merchant's* limitation proceeding in New York. We have filed a claim for, I forget, a million and some thousand dollars with leave to increase it when the

Coast Guard finally gets around to determining what its ultimate cost may be.

Mr. Burton. But you have to move in to protect our rights?

Mr. Ledebur. That's right. The court imposes a date by which all claims must be in.

Mr. Burton. But then when you file you are free to amend?

Mr. Ledebur. That is correct.

Mr. Burton. And then what happens?

Mr. Ledebur. Tedious, long, drawn out discovery.

Mr. Burton. At that level?

Mr. Ledebur. At that court level.

Mr. Burton. And it's your position that that court, at least under the procedure of filing for limitation, doesn't even have jurisdiction—or it's not relevant because he's coming in under a different act?

Mr. Ledebur. No; not that it doesn't have jurisdiction— that it could not limit the owner's liability to us under the FWPCA.

Mr. Burton. But they can determine liability?

Mr. Ledebur. Yes.

Mr. Burton. In other words, they can come up with the liability aspects of it?

Mr. Ledebur. That is correct.

Mr. Burton. So, in effect, you are in court moving on things before the Coast Guard even would know what to bill them for?

Mr. Ledebur. That is correct. And sometimes we are sued by the shipowners as allegedly causing destruction.

Mr. Burton. The Government is?

Mr. Ledebur. Yes.

Mr. Burton. All in all, you still think it works somewhat, right?

Mr. Ledebur. I think it works. I think it takes, as all civil litigation does, it takes an impossible period of time; but it works.

Mr. Burton. Do you find the same defendants, if you will, or plaintiffs, whichever, appearing time and time again?

Mr. Ledebur. No; not particularly.

Mr. Burton. Mr. Stangeland?

Mr. Stangeland. No questions.

Mr. Burton. Can you give a horseback figure of what it costs the Department of Justice to collect fines, penalties and liability claims?

Mr. Ledebur. We certainly have added no more personnel because of this legislation. I don't know.

Mr. Burton. What were they doing before?

Mr. Ledebur. We do whatever work we have to do in the time we have available.

Mr. Burton. Did you ever ask for any more and have OMB turn you down?

Mr. Ledebur. No.

Mr. Burton. Do you think that under the President's new initiatives you will probably be having to ask for more?

Mr. Ledebur. For myself, I would have to see the implementing legislation before I could answer that.

Mr. Burton. Well, you know it's going to be more work than you're doing now, I would think.

Mr. Ledebur. Not necessarily. It wouldn't necessarily be more litigation—which is all that we handle.

Mr. BURTON. This is mostly geared to prevention, and maybe there will be less litigation, isn't it so?

Mr. LEDEBUR. Conceivably.

Mr. BURTON. So really what the Coast Guard does as a practical matter in the litigation isn't really that relevant to you because the shipowner, insurance carrier, whoever, moves in immediately to sue to limit liability, and you find yourself involved in litigation both on that and the merits of the case prior to the time the Coast Guard might be even billing that?

Mr. LEDEBUR. In a spill of any size; yes. That's true.

Mr. BURTON. Does the Coast Guard know that?

Mr. LEDEBUR. Oh, yes.

Mr. BURTON. They didn't tell me this morning. I don't know if it would have made any difference.

Do you have any questions there?

Mr. ROMNEY. Thank you, Mr. Chairman. Just one.

What working relationship, in the way of coordinating, do the pertinent divisions of the Department of Justice have with the Coast Guard in processing these collection matters?

Mr. LEDEBUR. I think I can say the very best.

For approximately 15 or 20 years at all times I have had two Coast Guard legal officers assigned to me for 2-year tours of duty. They simply operate as one of my attorneys—gaining for their parent organization litigation experience across the board in the Admiralty area, but obviously concentrating on that particular case which the Coast Guard most frequently is involved in.

I would say we have the very best of relationships.

Mr. ROMNEY. Is this assistance sufficient for your purposes?

Mr. LEDEBUR. Oh, yes.

Mr. ROMNEY. Could you use more?

Mr. LEDEBUR. I can always use more but it certainly is sufficient for my purposes; yes.

Mr. BURTON. On the table you had, table I, civil penalties for violations of 311(b)(6) of the Water Pollution Control Act, you had 1,049 referrals. You declined 76 of those. What would be your reason to decline——

Mr. GHIORZI. Usually it would be insufficient evidence, or the identity, or more likely the location of the individual responsible, is unknown.

Mr. BURTON. You wouldn't be able to make a case——

Mr. GHIORZI. Or the samples of the oil which were collected may have been lost.

Mr. BURTON. You couldn't make the case, probably?

Mr. GHIORZI. Or bankruptcy on the part of the owner or operator.

Mr. BURTON. All right. Where it says penalty assessed—when the penalty is assessed, it means it was assessed in a court?

Mr. GHIORZI. No. That is the penalty assessed by the Coast Guard.

Mr. BURTON. All right. And then you collected 44 percent of the penalties assessed, and the rest of that is in litigation I guess?

Mr. GHIORZI. No; of the suits resolved by compromise we collected 44 percent of the penalty assessed. We still have pending 388 referrals which do not necessarily make up the additional percentage.

Mr. BURTON. So in other words between compromise and release and the pending, that would get you up to that million-dollar figure?

Mr. GHIORZI. Yes.

Mr. BURTON. Down on the next one, referrals involving recovery of taxpapers' funds, you haven't collected anything yet?

Mr. GHIORZI. On vessels, that's correct.

Mr. BURTON. I would assume that's in litigation?

Mr. GHIORZI. That's in litigation.

On others, we've collected a little over $0.5 million.

Mr. BURTON. On the Ports and Waterways Safety Act item, which seems to be a small one, they assessed $18,000; you collected almost a third of that, and there's nothing pending. That was compromise and release?

Mr GHIORZI. That's correct.

Mr. BURTON. We have no further questions. We may think of some and send you some interrogatories or requests.

Thank you very much.

If something comes to your mind that you think might be beneficial to the subcommittee as we prepared our report, we would be happy to have the benefit of your guidance.

Again, in no way do I want you to think that I'm critical of Justice using compromise and release.

Thank you very much.

[Mr. Ghiorzi's prepared statement follows:]

PREPARED STATEMENT OF ALFRED T. GHIORZI, CHIEF, POLLUTION CONTROL SECTION, LAND AND NATURAL RESOURCES DIVISION, DEPARTMENT OF JUSTICE

Mr. Chairman:

I am Alfred T. Ghiorzi, Chief, Pollution Control Section, Land and Natural Resources Division of the Department of Justice. I appreciate the invitation to meet with the Subcommittee and testify concerning the Department's policies and procedures with regard to fines, penalties, and liability claims assessed by the Coast Guard pursuant to the Federal Water Pollution Control Act and the Ports and Waterways Safety Act of 1972. I am accompanied by Mr. Lawrence F. Ledebur, Chief, Admiralty and Shipping Section, Civil Division.

As you know, Section 311 of the Federal Water Pollution Control Act prohibits the discharge of oil in harmful quantities by the owner or operator of any vessel, onshore facility or offshore facility and authorizes the Secretary of the Department in which the Coast Guard is operating to assess, after notice and an opportunity for a hearing, a civil penalty of not more than $5,000 for each offense. Each violation is a separate offense. In determining the amount for the penalty, the Secretary is authorized to consider the size of the business of the owner or operator, the effect on the operator's ability to continue in business and the gravity of the violation. Any violation may be compromised by the Secretary. In addition, subsection (c) of Section 311 authorizes the President to remove or to arrange for the removal of any oil which has been discharged into or upon the navigable waters of the United States upon the shoreline or upon the waters of the contiguous zone. The owner or operator of any vessel from which oil was discharged is liable to the United States for the actual costs incurred under subsection (c) for the removal of such oil in an amount not to exceed $100 per gross ton of such vessel or $14,000,000 whichever is the lesser, except where the United States can show the discharge was the result of willful negligence or misconduct on the part of the owner, in which case, the owner or operator shall be liable to the United States for the full amount of such costs. The owner or operator of an onshore facility from which oil was discharged is liable to the United States for the actual costs incurred in its removal in an amount not to exceed $8,000,000, except where the discharge was the result of willful negligence or misconduct, in which case, the owner or operator is liable to the United States for the full amount of the costs. The owner or operator of a vessel or onshore facility can escape liability where such owner or operator can prove that the discharge was caused solely by (1) act of God, (2) act of war, (3) negligence on the part of the United States government or (4) an act or omission of a third party or any combination of the foregoing. 33 U.S.C. §1321(f). Also, subsection (b)(5) provides that any person in charge of a vessel or an onshore and offshore facility shall, as soon as he has knowledge of discharge of oil in harmful quantities from such vessel or facility, immediately notify the designated agency of the United States government. Any such person who fails to notify immediately the designated agency is subject to a fine of not more than $10,000 or imprisonment of not more than one year or both. In pertinent part, the Ports and Waterways Safety Act of 1972 subjects any person, master, or person in charge of any vessel to a civil penalty of not more than $10,000 for violations of the rules and regulations promulgated under the Act. 46 U.S.C. §391(a)(11). All funds received by the United States under Section 311 of the Federal Water Pollution Control Act are deposited in a revolving fund established pursuant to subsection (k) of Section 311.

The authority conferred upon the Attorney General to conduct the litigation referred to him by the Coast Guard pursuant to the aforementioned statutes has been delegated to the Assistant Attorneys General in charge of the Land and Natural Resources Division and Civil Division. Since the Civil Division, through its Admiralty and Shipping Section (which has field offices in New York and San Francisco) had developed over the years an expertise in the handling of claims involving ships, it was delegated responsibility for claims involving oil pollution from vessels. In turn, the

Assistant Attorney General in charge of the Civil Division has redelegated to United States Attorneys the authority to collect and compromise civil penalties assessed by the Coast Guard pursuant to Section 311.

Claims involving the recovery of Federal funds expended for cleanup are referred by the Coast Guard to the Department of Justice, Washington. The Admiralty and Shipping Section, Civil Division reviews the claim and conducts the resultant litigation where the claim for reimbursement involves a vessel. It is the Section's policy to file a claim within 60 days of receipt and to accept nothing less than full payment unless there are crucial difficulties of proof.

Oil pollution litigation involving claims against sources other than vessels is supervised by the Pollution Control Section, Land and Natural Resources Division. Criminal litigation involving oil pollution is also handled by the Land and Natural Resources Division.

The authority delegated to the Assistant Attorneys General in charge of the Land and Natural Resources Division to collect civil penalties has been redelegated to the United States Attorneys. In addition, the United States Attorneys are authorized to initiate any criminal matter referred to them by the Coast Guard involving Section 311(b)(5) of the

Federal Water Pollution Control Act. United States Attorneys are authorized to compromise or settle the collection matters referred to them by the Coast Guard. However, criminal cases may not be dismissed without the prior approval of the Assistant Attorney General in charge of the Land and Natural Resources Division.

The Land and Natural Resources Division reviews the claim for Federal cleanup expenses involving the onshore or offshore facility and, if there is sufficient evidence to establish liability, refers the matter to the United States Attorney for filing, offering whatever assistance is needed. These cases, however, may not be settled by the United States Attorney without the prior approval of the Assistant Attorney General in charge of the Land and Natural Resources Division. The recommendation of the Coast Guard is always solicited before a settlement offer is accepted.

Thank you for this opportunity to testify.

Mr. Burton. The subcommittee will stand adjourned.

[Whereupon, at 3:15 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

APPENDIXES

APPENDIX 1

A. COAST GUARD RESPONSES TO QUESTIONS OF FEBRUARY 9, 1977

Question:

1. A complete chronology of studies, proposed and final rule making, and other significant actions (particularly those that involve the Inter-Governmental Maritime Consultative Organizations (IMCO) undertaken by the Coast Guard with respect to the following:

(a) Segregated ballasting for tankers broken down by new tankers or existing tankers, by U. S. or foreign registry, and by size above or below 70,000 DWT.

(b) Double-hull or double-bottom construction requirements for new tankers under U. S. or foreign registry.

Answer: 1 (a) & (b)

JUNE 22, 1972 - Statement by the Secretary of Interior (Rogers C. B. Morton) before the Senate Joint Economic Committee. This statement dealt with the Secretary's approval of the Trans-Alaska Pipeline System (TAPS). The Secretary, in recognizing the pollution potential in the marine leg of the Alaska route, stated that he and the Secretary of Transportation (Volpe) were studying various steps to reduce or eliminate marine pollution from tank vessels. One of the steps being studied was to require all newly constructed American-flag vessels to have segregated ballast systems incorporating a double bottom.

JULY 10, 1972 - The Ports and Waterways Safety Act of 1972 (P. L. 92-340) signed into law. Section 201 of this Act amended Section 4417a, Revised Statutes (46 U. S. C. 391a). Subsection (7) dealt with rules and regulations for vessel design and construction for the protection of the marine environment. Paragraph (7) (C) stated that rules and regulations were not to be effective earlier than January 1, 1974, unless in consonance with an International Treaty, Convention, or agreement. This paragraph further provided that in the absence of such consonant regulations, the Secretary of the department in which the Coast Guard was operating was nevertheless to promulgate tank vessel construction regulations not later than January 1, 1976. It is important to note that paragraph (7) (D) provided that regulations promulgated pursuant to subsection (7) should be equally applicable to foreign vessels and U. S.-flag vessels operating in the foreign trade.

JULY 1972 - A study, entitled, Report on Study I - Segregated Ballast Tankers, was completed and submitted to the XIII Session of IMCO Subcommittee on Marine Pollution (IMCO Document MPXIII12(a) 12, with corrigendum) by the United States. This study examined the cost, feasibility, and effectiveness of various segregated ballast arrangement alternatives for large tank vessels. This was one of a number of studies undertaken by various nations in preparation for the 1973 Marine Pollution Conference.

JANUARY 26, 1973 - The Coast Guard published an Advance Notice of Proposed Rulemaking in 38 F. R. 2467. The Advance Notice called the public's attention to the fact that pursuant to the PWSA the Coast Guard was studying and considering construction standards for pollution abatement for new tank ships. The Notice stated that the Coast Guard was given consideration to proposing regulations which would require a segregated ballast capability which would be achieved, in part, by a double bottom. It should be noted, however, that the Notice stated that the Coast Guard's study had not been completed and no final conclusions had been reached. Comments from the public were solicited, to be submitted by March 15, 1973.

FEBRUARY 1973 - A study, entitled Report on Part 2 of Study I-- Segregated Ballast Aboard Product Tankers and Smaller Crude Carriers, was completed and submitted to IMCO. This study expanded on the previous report on Study I.

JUNE 5, 1973 - The Secretary of the Interior wrote a letter to the Secretary of Transportation concerning the International Marine Pollution Conference to be held in the Fall of 1973, sponsored by IMCO. This letter also forwarded a congressional inquiry concerning the tank vessel construction standards insofar as the marine leg of the TAPS trade was concerned.

JUNE 20, 1973 - The Coast Guard sent to the Deputy Under Secretary of the Interior a reply to Congressman's Dellenback's inquiry. It should be noted that it was the Coast Guard's position that the PWSA required us to recognize and assess the outcome of the IMCO International Marine Pollution Conference before publishing any unilateral requirements for tank vessel construction.

JUNE 22, 1973 - The Secretary of the Interior responded to Congressman Dellenback calling his attention to the fact that the Coast Guard was constrained by Section (7), PWSA from establishing additional construction standards for pollution mitigation prior to January 1, 1976, unless in the interim there was a satisfactory International Treaty on the subject.

JULY 5, 1973 - The Coast Guard published, in 38 F. R. 17848, a supplement to the previous Advance Notice of Proposed Rulemaking. This supplement stated that over 60 comments to the Advance Notice had been received presenting complex issues which required careful analysis. It was also stated that since the IMCO International Conference on Marine Pollution would have a direct bearing on the actions of the Coast Guard under Title II, PWSA, The Coast Guard would await the outcome of the Conference before taking any further action on rulemaking on the subject.

OCTOBER 8 - NOVEMBER 2, 1973 - IMCO International Conference on Marine Pollution.

NOVEMBER 1973 - The Coast Guard received a final report of a study prepared by J. J. Henry Co., Inc. This study was an analysis of the oil outflow resulting from tanker casualties, including collisions and groundings. The study covered 1587 worldwide tanker casualties in 1971 and 1972. It should be noted that the results of this study caused the Coast Guard to reasses and reconsider the value of requiring double bottoms for marine pollution prevention.

NOVEMBER 12, 1973 - The Commandant, U. S. Coast Guard presented a statement before the Senate Commerce Committee reporting on the IMCO International Conference on Marine Pollution. The Commandant made specific reference to Title II, PWSA stating that the Coast Guard must analyze the proposed International Convention for the Prevention of Pollution from Ships, 1973, to determine whether "consonant" regulations could be developed. The Commandant also pointed out, with respect to the PWSA, that unilateral action by the United States would present intrinsic dangers and could result in unnecessary economic disadvantages to the U. S. Merchant Marine.

NOVEMBER 16, 1973 - Public Law 93-153 signed into law. While this law was primarily the TAPS legislation, Section 401 amended subsection (7)(C) PWSA to require the publication of tank vessel construction rules and regulations for U. S.-flag vessels engaged in the coastwise trade not later than June 30, 1974-- some seven and one-half months hence.

MID-NOVEMBER 1973 - The Coast Guard received a list of 19 questions from the Senate Commerce Committee pertaining to the International Convention for the Prevention of Pollution from Ships, 1973. The Coast Guard's responses were sent to the Senate Commerce Committee on December 29, 1973. It should be noted that the first two questions dealt with the issue of double bottoms.

JANUARY 29, 1974 - The Acting Secretary of the Interior sent a letter to the Secretary of Transportation (Brinegar) in which he stated that there were "expressions of concern" as to the content of the Coast Guard's regulations under Title II, PWSA. The Secretary of the Interior continued to stress his committment to requiring double bottoms as part of the segregated ballast systems for vessels engaged in the TAPS trade.

MARCH 14, 1974 - The Under Secretary, Department of the Interior wrote a letter to the Under Secretary, Department of Transportation again expressing the Department of Interior's desire to impose segregated ballast systems utilizing double bottom construction on United States vessels in the TAPS trade.

It should be noted that the Under Secretary, Department of the Interior stated: "we want the opportunity to discuss the merits of this issue before any draft regulations [are] published by the Coast Guard that would impose any lesser regulations."

APRIL 3, 1974 - The Secretary of the Interior wrote the Secretary of Transportation again stressing "the importance of continued adherence to the initiative to protect the marine environment" which would call for a requirement of double bottoms for U. S. vessels in the TAPS trade.

[From the above correspondence, it becomes readily apparent that the Secretary of the Interior was committed to double bottoms as a construction requirement for tank vessels in the TAPS trade, and was engaged in a continuing dialogue with the Secretary of Transportation in an attempt to insure that the Coast Guard's tank vessel construction regulations, under the TAPS amendment, would require double bottoms for U. S.-flag vessels engaged in the coastwise trade. The Coast Guard was, during the period December 1973 through February 1974, drafting regulations which were consistent with the 1973 Marine Pollution Convention. Because of the continuing efforts of the Secretary of the Interior, the contents of these draft regulations were open to question until some decision was reached on the Secretarial level. A Draft Environmental Impact Statement (DEIS) could not be published until such time as the content of the regulations was agreed upon.]

MAY 6, 1974 - The Chief Counsel, U. S. Coast Guard rendered a legal opinion concerning the question of whether the TAPS amendment (Section 401, P. L. 93-153) permitted the establishment of vessel construction standards for the coastwise trade different than those to be established for other vessels under subsection (7), Title II, PWSA. The Chief Counsel concluded: "the language of R. S. 4417a (Title II, as amended) does not allow for the promulgation of differing standards for vessels in coastwise trade, (including the TAPS trade) as opposed to vessels engaged in the foreign trade.

JUNE 7, 1974 - The Under Secretary, Department of the Interior sent an "URGENT" letter to the Under Secretary, Department of Transportation disagreeing with the Chief Counsel, U. S. Coast Guard's opinion, and forwarding a legal opinion in support of the Interior's position.

JUNE 27, 1974 - The Under Secretary, Department of Transportation sent a letter to the Under Secretary, Department of the Interior supporting the Coast Guard's views and position.

JUNE 28, 1974 - (One day after the Under Secretary communicated his support for the Coast Guard's position) The Coast Guard published its Notice of Proposed Ruelmaking in 39 F. R. 24150. These were the proposed tank vessel construction regulations under Title II, PWSA. On the same date, the Coast Guard published its Draft Environmental Impact Statement in connection with the proposed regulations.

JULY 23 & 24, 1974 - Public Hearings held in Seattle, Washington on the proposed regulations with a large public attendance.

JULY 30 & 31, 1974 - Public Hearings held in Washington, D. C. on the proposed regulations with a large public attendance.

AUGUST 1, 1974 - Congressman KOCH entered remarks in the Congressional Record (H7551-52) concerning the Coast Guard's proposed rules. It should be noted that Mr. KOCH followed up his remarks by the introduction of a Bill (H. R. 17054) on October 3, 1974. This will be mentioned later in the chronology.

AUGUST 19, 1974 - Closing date for public comments on the Coast Guard's proposed rules, and related Draft EIS. 166 comments were received dealing with the proposed regulations. Eight agencies, organizations, etc. submitted comments on the Draft EIS, one set of comments extended to 52 page commentary on the Draft EIS was submitted by Mr. Eldon Greenberg on behalf of eight environmental groups.

SEPTEMBER 17, 1974 - Senator E. MUSKIE sent a letter to the Secretary of Transportation strongly disagreeing with the Coast Guard's interpretation of Section (7) of Title II, PWSA.

SEPTEMBER 23, 1974 - Congressman DINGELL sent a letter to the Secretary of Transportation strongly objecting to the Coast Guard's proposed rules and the absence of a requirement for double bottoms.

OCTOBER 3, 1974 - Congressman KOCH introduced H. R. 17054 which, if enacted, would have amended Section (7) of R. S. 4417a (Title II, PWSA) to legislatively require certain machinery and equipment on tank vessels, and require double bottoms of specific dimensions. Section 2 of this Bill would provide legislative authority for the Coast Guard to establish more stringent requirements for U. S.-flag vessels in the coastwise trade than those for vessels operating in the foreign trade. It should be noted that if passed, this Bill would have completely reversed the Coast Guard's position on what Title II, PWSA required, and thus any regulations under Title II, PWSA would be rendered meaningless and require complete revision.

OCTOBER 4, 1974 - The Commandant, U. S. Coast Guard sent a letter to Senator MAGNUSON, Chairman, Senate Commerce Committee. This letter clearly set forth the Coast Guard's position with respect to the question of double bottoms and the basis upon which the Coast Guard founded its position. In essence, the Commandant stated that the Coast Guard was not opposed to double bottoms as a method of Marine Pollution abatement and prevention, but was on the other hand, opposing a single design being legislatively or regulatorily imposed. The Commandant's position was that it was much more desirable to have the flexible concept of a defensive space for segregated ballast than requiring a single design feature, i.e. double bottoms.

OCTOBER 18, 1974 - The Under Secretary, Department of Transportation, responded to Senator MUSKIE's letter of September 17, 1974. This response was essentially identical to the Commandant's letter to Senator Magnuson pointing out the desirability of a defensive space concept with design flexibility in locating segregated ballast tanks rather than requiring double bottoms.

OCTOBER 25, 1975 - The Under Secretary, Department of Transportation, responded to Congressman Dingell's letter of September 23, 1974. Mr. Barnum pointed out essentially the same things as were contained in his letter to Senator MUSKIE.

DECEMBER 16, 1974 - Congress passed H. R. 8193, commonly called the "Tanker Preference Act." Section 6 of this Bill imposed a statutory requirement that certain vessels engaged in the carriage of oil in bulk to U. S. West Coast ports be equipped with a segregated ballast capacity to be achieved in part by double bottoms.

DECEMBER 30, 1974 - President Ford vetoed H. R. 8193. His veto message is contained in Volume 11, No. 1, Presidential Documents: Gerald R. Ford, 1975, at page 5.

JANUARY 23, 1975 - Senator MAGNUSON introduced S. 333, A bill to amend the Ports and Waterways Safety Act. This Bill would have inserted a new paragraph (10) under Title II, PWSA entitled "Mandatory Requirements," and would statutorily require certain vessels engaged in the carriage of oil in bulk to parts of the United States to be equiped with double bottoms.

FEBRUARY 4, 1975 - The Coast Guard requested the assistance of the American Petroleum Institute in studying the value of the "protective space" concept as an alternative to double bottoms in tank vessels.

APRIL 28, 1975 - Study Group report on "Segregated Ballast Tanker Study - Ship Configuration".

MAY 9, 1975 - Coast Guard engaged in discussions with Senate Commerce Committee staff and others concerning the Study Group Report and the double bottoms issue.

MAY 22, 1975 - Senator MAGNUSON sent a letter to the Secretary of Transportation (Coleman) urging the Coast Guard to issue their regulations pursuant to PWSA. Senator MAGNUSON further stated that the Senate Commerce Committee plans to hold "oversight" hearings on the entire set of regulations issued by the Coast Guard under the Ports and Waterways Safety Act.

JUNE 18, 1975 - Secretary Coleman responded to Senator MAGNUSON's letter of May 22, 1975 stating that the final regulations should be published by August 4, 1975.

AUGUST 15, 1975 - The Coast Guard published its Final Environmental Impact Statement for rules applicable to U. S. tank vessels carrying oil in domestic trade. This impact statement includes information on analysis of accident data, tradeoff studies of segregated ballast distribution schemes, and effectiveness of various alternatives for improving vessel maneuverability.

OCTOBER 14, 1975 - The Coast Guard published final rules applicable to U. S. tank vessels carrying oil in domestic trade which set criteria for the distribution of segregated ballast required on vessels over 70,000 deadweight tons (41 FR 1479).

APRIL 15, 1976 - The Coast Guard published proposed rules applicable to U. S. tank vessels carrying oil in foreign trade and foreign tank vessels entering U. S. navigable waters (41 FR 1860). These rules required segregated ballast on vessels over 70,000 deadweight tons and set criteria for the distribution of segregation ballast to provide defensive space against damage due to collision ot grounding. On the same date, the Coast Guard published its Draft Environmental Impact Statement in connection with the proposed regulations.

MAY 13, 1976 - The Coast Guard published an Advance Notice of Proposed Rulemaking (41 FR 19672) indicating it was considering developing regulatory requirements for segregated ballast on existing tank vessels of 70,000 deadweight tons and over. This notice solicited comments from the public on the cost involved in retrofitting existing vessels, the inflationary impact on the economy by requiring this retrofitting, and on technical and other possible problems that could be expected during and as a result of implementing this concept.

MAY 1976 - A joint study by the delegations of Greece, Italy, and Norway entitled Introduction of Segregated Ballast in Existing Tankers was presented at the Fifth Session of IMCO Marine Environmental Protection Committee.

OCTOBER 1976 - A study, entitled Implications of the U. S. Coast Guard Segregated Ballast Retrofit Ruling on Import Alternatives and Pollution of the Marine Environment, was completed for the Coast Guard. This study was commissioned to:

(1) Estimate the economic costs and environmental benefits to be derived from implementation of the regulation, and (2) examine the economic feasibility of alternative oil importing schemes (i.e., transshipment and lightering) which could circumvent the proposed approach. This study determined that the 16 percent of the tankers in the present U. S. oil import fleet which would be subject to the segregated ballast retrofit requirement, would very likely circumvent the retrofit requirement by lightering, which is the most cost-effective transportation mode. There is no evidence that the proposed segregated ballast retrofit policy will be effective in reducing oil pollution of the marine environment.

NOVEMBER 1976 - The Coast Guard initiated an evaluation of crude washing of cargo tanks as an alternative to providing segregated ballast spaces in order to reduce operational pollution.

NOVEMBER 12, 1976 - Final environmental impact statement on regulations for U. S. tank vessels carrying oil in foreign trade and foreign tank vessels entering U. S. navigable waters was made available to the President's Council on Environmental Quality and to the public.

DECEMBER 13, 1976 - The Coast Guard published final regulations applicable to U. S. tank vessels carrying oil in foreign trade and foreign tank vessels that enter the navigable waters of the United States.

Question:

1. A complete chronology of studies, proposed and final rule making, and other significant actions (particularly those that involve the Inter-Governmental Maritime Consultative Organizations (IMCO)) undertaken by the Coast Guard with respect to the following:

(c) Loran-A and Loran-C radar (LC).

Answer:

Loran and radar are completely different electronic systems.

Radar is a self-contained system which transmits pulses of radio energy at short intervals and detects energy which is reflected from an object. The direction from which the echo returns and the time required for a pulse to make the round trip to the object and back provide a measure of the direction and distance to the object. Radar is in common use on ships. It is used for both navigation (ranging on fixed landmarks), and for collision avoidance (ranging on other ships, noting their position and movement). A Federal Regulation published on 31 January 1977 requires a radar on each self-propelled vessel of 1600 or more gross tons when it is operating in or on the navigable waters of the U.S.

Loran is a radio navigation system with which a ship can identify its position by using a special receiver to measure the difference in the times of arrival of radio pulses transmitted from fixed stations ashore. Loran-A is an early version of Loran, developed in World War II. It is in wide use throughout the northern hemisphere, but is being supplanted by newer systems.

Loran-C is a newer version of Loran, providing higher accuracy and longer usable range than Loran-A. In 1972-1973, the Coast Guard commissioned an intensive study of navigation requirements in the coastal waters of the U.S., and of candidate systems which might satisfy them. The study identified a need for the ability to measure position to an accuracy of 1/4 mile. It identified Loran-C as the only system capable of meeting this requirement. Loran-C service is available now on much of the East Coast and in some Hawaiian and Alaskan waters. The service is being extended to provide complete coverage of the West Coast from the Bering Sea to the U.S. border with Mexico, the entire East and Gulf Coast, and the Great Lakes. A proposed rule that would require each self-propelled vessel of 1600 or more gross tons to carry a Loran-C receiver when operating in U.S. navigable waters was published on 31 January 1977. The period for comment on the proposal expires on 1 April 1977.

Question:

1. A complete chronology of studies, proposed and final rule making, and other significant actions (particularly those that involve the Inter-Governmental Maritime Consultative Organizations (IMCO) undertaken by the Coast Guard with respect to the following:

1.(d) Collision avoidance assistance systems

Answer:

The concept of requiring the systems for vessels of 10,000 or more gross tons on U.S. navigable waters was first introduced in an advance Notice of Proposed Rulemaking published 28 June 1974 (39 FR 24157). Four comments, all negative, were received. The proposal was dropped from the subsequent notice, published on 6 May 1976 (41 FR 18766). Seventeen comments were prompted by the omission, all strongly urging requirement of the systems. In view of the conflicting public comment, the Coast Guard will publish a Notice of Proposed Rulemaking exclusively devoted to proposed requirement of the systems within the next few weeks. Drafting is completed and the document is being routed for internal clearance. Meanwhile, a Coast Guard contracted study of the systems is nearing completion and should be published within 90 to 120 days.

1.(e) Tanker training qualifications

Answer:

In 1970 an IMCO working group reported "that in view of the continuing alarming rise in maritime casualties and pollution, it is necessary for urgent action to be taken aimed at strengthening and improving standards of training and professional qualifications of mariners as a means of securing better guarantees of safety at sea and protection of the marine environment."

Accordingly in October 1971 the Maritime Safety Committee established a new sub-committee in IMCO and tasked it with studying the subject and preparing a position to be used as a basis for further discussion and hopefully a new international document. This sub-committee, in which the United States is party, has had nine sittings and is in the process of finalizing a draft convention for the conference scheduled to be held in autumn of 1978.

Out of these sessions there have been 27 draft recommendations, accepted by the sub-committee, which will be considered in the 1978 conference. The major efforts of the sub-committee has been to establish the highest minimal international standards for ships' officers and crews, including standards for personnel aboard ships carrying hazardous or noxious chemicals and liquefied gases in bulk.

In its ongoing review of domestic regulations, the Coast Guard recognized that the existing regulations pertaining to personnel involved in transportation and transferring bulk dangerous liquid in bulk were not responsive to present day operations. Accordingly, in 1973 drafting action was started to amend the existing regulations, to provide for better qualified personnel. Advanced drafts, of the proposed regulation have been circulated on two occasions to the "marine industry" (1973-1974). To better understand the problem and to support proposed amendments the Coast Guard started two studies in 1975, i.e., "Qualification Standards for personnel responsible for hazardous or noxious chemicals in bulk" and "Qualification of Liquefied natural gas cargo personnel." These studies were completed in 1976 and are now being used for guidance.

The Coast Guard is proposing to issue regulations governing the qualifications of personnel involved in the handling and transportation of dangerous cargoes in bulk aboard ships and barges. In order to reduce pollution incidents, it will be proposed that licensed deck officers no longer be tankermen by virtue of holding a license, but must have qualifying training to be a "tankerman" before they may perform service involving transfer of dangerous cargoes. Deck and engineer officers and unlicensed personnel would have to show qualifying service and complete approved training courses, or pass a written Coast Guard examination in order to qualify for the endorsement as "tankerman."

Firefighting training will be required for all persons responsible for the handling and transfer of bulk liquid or liquefied gas on U.S. tank vessels. This training will be required for both officer and unlicensed "tankerman" ratings.

Additionally, it will be proposed that continuing eligibility (upon renewal of certificates or licenses each 5 years) be contingent upon recency of service and training exercises or other demonstrations of current knowledge.

It is anticipated that this proposed rulemaking will be published in the Federal Register approximately 1 April 1977.

QUESTION:

2. What economic or other consequences adverse to the United States could be reasonably anticipated should the regulations similar to those listed in item 1. above be implemented unilaterally by the Coast Guard and enforced for all vessels entering U. S. ports or operating in navigable waters subject to U. S. jurisdiction or control?

(a) Segregated ballast for tankers in the following categories: new or existing; U. S. or foreign registery; over 70,000 DWT or under 70,000 DWT.

(b) Double hull or double bottom construction requirements for tankers in the following categories: new: U. S. or foreign registry.

Answer: 2 (a) & (b)

This is a difficult question to answer in that it involves many interactive considerations, most of which have not been studied because needed data are not, and can not be made available.

The consequences of proposed changes to tank vessel requirements can generally be grouped into the following categories:

economic
energy
environmental protection
foreign relations
national defense
safety

SEGREGATED BALLAST ON NEW TANKERS OVER 70,000 DWT

Segregated ballast requirements for new tank vessels over 70,000 DWT (the requirements contained in the 1973 Marine Pollution Convention) have now been made applicable by Coast Guard regulations to U. S. tank vessels and foreign tank vessels entering U. S. waters.

Although the regulations issued by the Coast Guard were "unilateral" in the sense that they went into effect before the 1973 Marine Pollution Convention entered into force, the fact that U. S. action in implementing these requirements was consistent with the agreed-upon international course of action avoided possible adverse foreign relations consequences.

SEGREGATED BALLAST ON EXISTING TANKERS OVER 70,000 DWT

A proposal to require that existing tank vessels over 70,000 DWT be modified to incorporate segregated ballast spaces is being considered by both IMCO and the U. S. Coast Guard.

The cost of providing segregated ballast spaces on existing tankers was estimated in an IMCO study at $1 million to $3 million per vessel, but in extreme cases up to $5.2 million.[1] (these were 1976 costs.) Extimates of increase in required freight rate to cover these costs ranged from 2% to 6.5%, depending on the useful vessel life remaining at the time of the conversion.

A study of the U. S. proposal to require backfitting of segregated ballast tanks on existing tankers (U. S. and foreign) engaged in importing oil to the United States was completed for the Coast Guard in October 1976.[2] This study was commission to (1) estimate the economic costs and environmental benefits to be derived from implementation of the regulation, and (2) Examine the economic feasibility of alternative oil importing schemes (i.e., transshipment and lightering) which could circumvent the proposed regulation. It was determined that the 16% of the tankers in the present "U. S. oil import fleet" (including vessels of both U. S. and foreign registry), which would be subject to the regulation would very likely circumvent the retrofit requirement by lightering, which is the most cost-effective transportation mode. There is no evidence that the proposed segregated ballast ruling will be effective in reducing oil pollution of the marine environment.

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[1] IMCO Marine Environment Protection Committee, Introduction of Segregated Ballast in Existing Tankers, a joint study by the delegationssof Greece, Italy, and Norway presented at the Fifth Session of MEPC, May 1976.

[2] R. Dayton, P. Daniels, L. Stoehr, J. Kirkland, Implications of the U. S. Coast Guard Segregated Ballast Retrofit Ruling on Import Alternatives and Pollution of the Marine Environment, CG Report CG-M-06-77, NTIS AD-A034840, October 1976.

OTHER APPLICATIONS OF SEGREGATED BALLAST AND REQUIREMENTS FOR DOUBLE BOTTOMS AND DOUBLE HULLS

The consequences of unilateral implementation by the U. S. of (1) requirements for segregated ballast on new and existing tank ships of less than 70,000 DWT, and of (2) requirements for double bottoms or double hulls for new tank vessels, have not been fully explored. Since these measures go beyond areas of agreed-upon international action, they are more likely to have impacts in economic, energy, foreign relations, and national defense categories than the measures discussed in the previous two sections. In order to determine the consequences (either adverse or favorable)these are some of the questions that will have to be answered:

ECONOMIC AND ENERGY CONSIDERATIONS

What will be the cost of "converting" or modifying an individual existing vessel to incorporate a particular feature, or the change in cost of construction of a new vessel due to incorporation of a particular design change or feature?

What will be the cumulative cost of modifying all of the vessels that will be required to be modified?

How much additional capital investment will be required to carry out the necessary modifications and where will it come from?

What will be the effect on the cargo carrying capacity of an individual vessel of conversion of an existing ship or design change to a new ship?

What will be the added transport cost due to conversion?

What will be the effect of modifying all the vessels to be modified on overall cargo tonnage balance (the balance of cargo tonnage supply against demand)?

How are the costs of the modifications going to be distributed among various parties involved?

What will be the added transport cost due to conversion?

What effect will the conversion have on the consumption of bunker fuel for tank vessels?

What is the role of the vessels to be affected by the proposed measure in the marine oil transportation system?

What effect will the proposed requirement have on the trade routes and ship mixes currently in use?

ENVIRONMENTAL PROTECTION CONSIDERATION

What are the probable future changes in amount and location of oil discharges resulting from the implementation of the proposed regulation?[3]

FOREIGN RELATIONS CONSIDERATIONS

What will be the reaction of foreign flag ship owners to the proposed regulations?

How much impact on foreign governments will the reaction of foreign shipping interests have?

What will be the reaction of foreign government to the proposed regulations?

What possible actions could be taken by foreign governments in response to U. S. Action in proposing regulations?

What are the probability and the expected consequences to the U. S. of each of these actions?

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[3] See Dayton, et.al, op. cit., p 3-2ff. for example of analysis of change in discharges resulting from regulation change.

NATIONAL DEFENSE CONSIDERATIONS

What possible effects on our national defense could unilateral imposition of the proposed regulations have?

What is the probability of these effects occurring?

What are the resulting consequences?

SAFETY CONSIDERATIONS

What safety hazards are affected by the proposed measures?

What effects do the proposed measures have on the probability of occurrence of these hazards?

What effects do the proposed measures have on the consequences of these hazards?

Tankship transportation economics is a complex field, and traditional static economic analysis does not explain how rates are formed in the tankship markets. [4] Expectations concerning future market conditions play a major role in orders for new ships and often result in boom-or-bust sort of market performance. Requirements for changes in vessel design such as those proposed can be expected to change the supply of tankships, raising costs, and changing trade routes and vessel mixes. Alternative methods of importing oil, such as lightering offshore and transshipment at nearby foreign terminals will probably come into use.

These changes may result in tanker supply shortages or surpluses, but the extent and distribution of these have not been estimated.

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[4] Zannestos, Zenon C., The Theory of Oil Tankship Rates; An Economic Analysis of Tankship Operations, The MIT Press, Cambridge, 1966. p 239

The environmental benefits of these measures depend on how compliance is achieved. Benefits from application to a relatively small number of shuttle tankers lightering vessels offshore or serving transshipment terminals will obviously be less than if measures were adopted on a world-wide basis.

Effects on foreign relations and national defense are uncertain. U. S. unilateral action will abrogate a number of existing agreements with foreign nations. U. S. action to unilaterally extend vessel construction requirements to foreign vessels near our shores while these matters are under consideration at the Law of the Sea negotiations will certainly have an impact on those negotiations. What kind and how serious it is impossible to say. Changes to trade routes and vessel mixes could also have an impact on fuel supplies to meet national defense needs.

Question:

2. What economic or other consequences adverse to the United States could be reasonably anticipated should the regulations similar to those listed in item 1. above be implemented unilaterally by the Coast Guard and enforced for all vessels entering U.S. ports or operating in navigable waters subject to U.S. jurisdiction or control?

(c) Loran A and Loran C radar.

(d) Collision avoidance systems.

Answer: 2(c) Loran C (vessels over 1600 GT)

Purchase cost of the receivers, ultimately passed to U.S. consumers, is estimated at $30,800,000. Additionally, unilateral action by the U.S. may cause other maritime nations to require nationally sponsored electronic navigational systems to be carried by U.S. flag vessels utilizing their ports. Cost to the U.S. economy of such moves by foreign sovereignities is not estimable at this time.

Answer: 2(d) Collision Avoidance Systems

Total cost of the systems, ultimately passed to U.S. consumers is estimated to be $224,000,000. Net cost, subtracting reduction in vessel casualty costs, spill clean up costs, less loss of life, etc., would be entirely speculative at this point. Savings attributable to collision avoidance assistance systems on the navigable waters of the U.S. would probably be small. Savings realized from use of the systems in the coastal confluence zone could be appreciable and are the only real justification for requirement of the systems.

Question:

2e What economic or other consequences adverse to the United States could be reasonably anticipated should the regulations similar to those listed in item 1. above be implemented unilaterally by the Coast Guard and enforced for all vessels entering U.S. ports or operating in navigable waters subject to U.S. jurisdiction or control?

Answer: 2(e) Tanker Training Qualifications.

In view of the favorable conditions for international agreement in the area of Standards of Crew Training and Watchkeeping, the Coast Guard believes, to maintain its creditability it would be to the advantage of the United States to withhold any unilateral action pending the outcome of the 1978 conference. International accord is considered the best approach. Therefore, the U.S. Delegation will request that consideration be given to holding the conference in the spring of 1978, rather than the presently planned autumn of 1978. At that time the U.S. Delegation will continue to strive for the highest international standards. After the 1978 conference, the United States could take action requiring those standards which have been established by international agreement, unilaterally.

Economic consequences would be closely linked to international retaliation. Possibly other governments would prohibit our ships entering their ports without our crews meeting their requirements. We can not assess the international reaction as'we have historically avoided unilaterial action except in limited cases or case of general agreement without treaty.

Question:

3. (a) How many field personnel does the Coast Guard employ to carry out the functions of Enforcement, Prevention, and Monitoring and Surveillance under the Marine Environmental Protection (MEP) Program and the comparable functions under the Port Safety and Security (PSS) Program and the Commercial Vessel Safety (CVS) Program?

Answer:

It is difficult to distinguish CVS and PSS functions which are "comparable" to MEP functions because the divergence between safety objectives and the objectives of environmental protection is nearly impossible to identify. These estimates do not include personnel manning such multimission operating facilities as vessels, aircraft and selected shore units that are assigned duties in support of these functions. They also do not include general administrative support personnel not located at the field units. The Coast Guard field offices utilize a mix of commissioned officers, chief warrant officers, enlisted petty officers, and civilians to administer and enforce federal safety statutes and regulations. Estimated personnel levels in FY 1977 by program in support of these specific functions are as follows:

MEP:	527
PSS:	891
CVS:	922 *

* Includes 245 commissioned officer and warrant officer billets that are identified as training billets, meaning that the officers assigned thereto are engaged in apprentice type miltiprogram qualification. (See question/answer 4 concerning training.)

Question:

3. (b) How many field personnel did the Coast Guard employ for the above purposes during FY's 1973, 1974, 1975, and 1976?

Answer:

The following chart indicates personnel employment by program for these specific functions:

Program	FY 73	FY 74	FY 75	FY 76
MEP	*	272	318	480
PSS	*	702	782	831
CVS	*	930	915	915

* Some data is available for FY 1973, however, differences in personnel accounting procedures and changes to organizations have negated the value of that data.

QUESTION:
3. (c) What budget funds for manpower needed to perform functions described in (a) above were requested for FY's 1973, 1974, 1975, 1976, and 1977 (i) by the Coast Guard, (ii) by the Department, and (iii) by the President? What amounts have been appropriated?

Answer:

Estimated total manpower budget requests and amounts appropriated by program, for these specific functions are as follows:

($ Thousands)

		Coast Guard	Department	President	Appropriated*
**FY'73	MEP	--	--	--	--
	PSS	--	--	--	--
	CVS	--	--	--	--
FY'74	MEP	4,596	3,538	2,827	2,546
	PSS	8,106	6,571	6,571	6,571
	CVS	9,800	9,032	8,705	8,705
FY'75	MEP	5,049	3,628	3,171	3,161
	PSS	13,497	8,597	7,772	7,772
	CVS	9,541	9,402	9,094	9,094
FY'76	MEP	6,939	6,842	5,258	5,172
	PSS	11,238	9,568	9,008	8,954
	CVS	10,118	9,945	9,859	9,859
FY'77	MEP	9,678	9,644	6,094	6,094
	PSS	13,043	12,812	10,303	10,303
	CVS	10,973	10,800	10,661	10,661

* Represents Coast Guard distribution within number of personnel authorized by Congress.

** Not available - See question 3.(b).

QUESTION:

3. (d) What are the corresponding figures relating to equipment needed to perform the functions described in (a) above?

ANSWER:

Equipment requests to perform the functions indicated in (a) above are as follows: (All figures in thousands of dollars)

	Coast Guard	Department	President	Appropriated*
FY 73				
Houston, TX - Vessel Traffic Services	$2,000	$2,000	$2,000	$2,000
FY 74				
New York - Vessel Traffic Services	5,200	4,200	4,200	4,200
New Orleans - Vessel Traffic Services	1,700	1,700	1,700	1,700
Puget Sound - Vessel Traffic Services	-	1,000	1,000	1,000
Port Safety Patrol Boats	2,585	2,200	1,200	1,200
FY 75				
Port Safety Patrol Boats	2,035	1,550	275	275
New York - Vessel Traffic Services	1,100	1,100	-	-
Valdez - Vessel Traffic Services	-	-	2,361	2,361
Aerial Surveillance Sensors	1,000	-	-	-
FY 76				
Port Safety Patrol Boats	4,175	2,190	1,940	1,940
Valdez - Vessel Traffic Services	1,000	-	-	4,800
New Orleans - Vessel Traffic Services	1,591	991	991	-
Hazardous Protective Clothing	600	300	675	675

FY 77	Coast Guard	Department	President	Appropriated*
Port Safety Patrol Boats	2,990	1,300	390	390
New Orleans - Vessel Traffic Services	893	-	-	-
New York - Vessel Traffic Services	-	-	3,700	3,700
Oil Spill Identification Laboratories	500	500	500	500

*Represents Coast Guard Distribution within amounts appropriated.

Question:

4. Describe the selection and training that MEP, PSS and CVS inspectors must undergo to qualify. Include a discussion of the parts that academic training, on-the-job training and prior experience play.

Answer:

Multiprogram Units:

The basic authority for CVS programs is found in the regulatory powers of the Officer in Charge, Marine Inspection (OCMI); for the MEP and PSS programs, it is found in the powers of the Captain of the Port (COTP). In an effort to secure the maximum efficient use of available resources, the Coast Guard has thus far, consolidated 36 COTP units and marine inspection offices (OCMI Functions) into multimission marine safety offices (MSO). The departmental structure of such MSO's is designed to allow command utilization of all personnel resources of the CVS, MEP and PSS Programs that have been provided to the unit under separate program budgetary jurisdiction. The objective is full employment of all MSO law enforcement personnel in fulfilling, on a priority basis, the collective tasks assigned to the command. The four MSO departments are Inspection, Investigation, Port Operations, and Licenses and Documents. It is therefore somewhat inappropriate to refer to all assigned law enforcement personnel as simply "inspectors" when in reality, inspection is but one of the departmental tasks involved. Moreover, the multitude and degree of skills generally tracks the grade level and employment status (i.e., commissioned officer, warrant officer, petty officer, or civilian) of the people assigned to the unit.

In order to effectively employ the MSO concept of operations, it has been necessary to address multiprogram training and qualification, as well as selection and assignment. The various selection goals of the three programs (CVS, MEP and PSS) have been coordinated by the three program managers and presented to the personnel support director for his action.

Selection:

Basic guidelines exist relative to selectivity of military personnel for assignment to marine safety field duties, these tend to follow program lines:

CVS - Commissioned officers and warrant officers, selected for their initial (or qualification) tour at a field unit performing CVS duties, are for the most part, junior officers who have had seagoing experience and who have requested marine safety duties. These officers having completed their initial tour at MSO/MIO's may be transferred to other marine safety duties or may "rotate" to sea. Qualified marine safety officers, returning from sea, serve their subsequent assignments in higher echelon billets at MSO/MIO's. Petty officers are assigned in limited numbers to CVS duties on the basis of their ratings. They usually have indicated a desire for MSO/MIO duty. Prior sea experience of enlisted personnel depends upon the rating. For example, a yeoman processing ship officer license candidates may have had only minimal sea time; a boatswain's mate serving as an assistant inspector may have spent most of his career afloat. While civilian personnel are not as sensitive to selection practices, the CVS Program does employ a significant number of civilians at field units positions directly related to the administration and enforcement of laws. Most of these people are assigned to the License and Document departments.

PSS-MEP - Because of the wartime requirements for port security, a substantial number of Coast Guard Reserve junior officers (mostly recent graduates of Officer Candidate School) are assigned to PSS and MEP billets at MSO's and COTP units. Upon completing their assignment of three years active duty, the preponderance of these officers return to civilian life and Reserve training. The balance of commissioned officers entering initial tours at field units in PSS and MEP funded billets are sea-experienced junior officers, most of whom will continue to serve in subsequent marine safety assignments. There is a diffusion of program identity related to career commissioned officers on initial tours, owing to recent initiatives in multiprogram training of commissioned officers. There are insignificant numbers of warrant officer billets and civilian positions funded by the PSS and MEP Programs at field units. The bulk of MEP and PSS field personnel are petty officers, most of which have sea experience. Assignment of enlisted men on initial and subsequent tours to MSO's and COTP units is usually on the basis of requests for that duty.

Training:

Once an officer or petty officer is assigned to a MSO, MIO or COTP unit for his initial tour of marine safety duty, an applicable training program is implemented.

At the present time, all first tour commissioned and warrant officers, assigned to CVS funded billets at MIO's and MSO's, attend a 10 week Merchant Marine Safety Course at the USCG Reserve Training Center (RTC) Yorktown, VA. This is a basic indoctrination course in the practices, procedures, policies, and authorities applicable to the various field office functions of the OCMI (CVS functions). Officers assigned to MEP and PSS funded billets receive similar training at RTC Yorktown in the 6 week Marine Environment and Systems Officer Course.

Starting with the course convening on 23 May 1977, all first tour commissioned and warrant officers, ordered to MSO's, MIO's or COTP units, will be required to attend a new 12 week Marine Safety Basic Indoctrination Course (MSBIC) at the RTC Yorktown, in lieu of the present separate courses.

The MSBIC is designed to indoctrinate the student officers with the procedures, practices, policies and regulations applicable to each of the marine safety programs. Upon completion of the course, officers assigned in designated training billets will undergo periods of on-the-job qualification, under the supervision of experienced officers, in each of the various departments of their respective units. During this period, the officer in training progresses through a "watch me" stage to a "hands-on" stage and finally to a "solo" performance in each of the many departmental law enforcement tasks. Most of this training is performed in the field away from the unit. Anticipated training periods vary in time depending on: (1) the rank and experience of the officer, (2) whether the unit is an MIO, MSO, or COTP unit, and (3) the ability of the individual. Chief warrant officers undergoing qualification in the Inspection, Port Operations and License and Documents Departments at an MSO will typically complete their qualification in 18 months. Training for junior officers at MSO's qualifying in all four departments will take about 30 months.

Petty Officer formal training also takes place at Yorktown at the Marine Environment and Systems Petty Officer Course (MESPOC). This course is 6 weeks in duration. Upon completion, petty officers return to their units with a basic familiarity with MEP and PSS regulations and procedures. Active consideration is now being given toward the inclusion of some CVS material in the MESPOC so that petty officers may become qualified as "assistant marine inspectors."

Other Training:

A number of short formal resident courses and seminars on such subjective areas as hazardous materials, non-destructive testing, automated ships' boilers, executive management, intermodal investigation techniques, etc. are conducted annually for officer personnel assigned to MSO/MIO's. These courses fall under the auspices of the Coast Guard, other federal agencies and the marine industry. Academic training on a postgraduate college level is offered to qualified officers in such areas as chemical engineering, marine engineering and naval architecture, environmental management, and marine transportation. Graduates of these academic programs are assigned to multiprogram technical positions in Coast Guard district offices and Coast Guard Headquarters. A limited amount of special training is offered to selected officers in the area of industry training. Officers taking part are assigned to shipping companies and various marine industry and port organizations for periods of 6 months to 1 year for purpose of becoming acquainted with the motivations and procedures of commercial operations.

Question:

5.(a) Describe fully the data systems in use or available for use by the Coast Guard and its field offices for storage and retrieval of information on oil pollution incidents and tanker casualties.

Answer:

The U.S. Coast Guard has several data systems for storage and retrieval of information on tanker casualties and oil pollution incidents. A reportable marine casualty, as defined by 46 CFR 4.05, occurs whenever the casualty results in any of the following:

a. Actual physical damage to property in excess of $1,500.

b. Material damage affecting the seaworthiness or efficiency of a vessel.

c. Stranding or grounding. (With or without damage.)

d. Loss of life.

e. Injury causing any person to remain incapacitated for a period in excess of 72 hours; except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.

Casualty reports are required to be submitted by U. S. flag vessels regardless of the location of the vessel at the time of the incident and by foreign flag vessels when the casualty occurred within the territorial waters of the United States. The casualty report that is submitted to the nearest marine inspection office is investigated by a trained designated Investigating Officer who submits a report of his findings through the chain of command to Coast Guard Headquarters in Washington, D. C. Following a review process, all casualty reports are converted into a yearly automated record of marine casualties. This Automated Casualty System presently contains data from Fiscal Year 1963 through Fiscal Year 1976. The system is neither real time nor interactive but is functional with respect to generating statistics and sorting data for further analysis. As a supplement to the automated casualty file for detailed analysis work, a microfilm record of the original investigative report is on hand.

Violation reports issued by Captain of the Port (COTP) personnel are forwarded to Coast Guard Headquarters where the information is entered into the Port Safety Reporting System (PSRS). The system is organized for information retrieval by computer terminals in Coast Guard Headquarters (G-WLE), district offices (mps) and most COTP units and MSO's. The PSRS is intended to store and organize a large volume of information, to encourage consistency of enforcement from one district to another and from one port to another, and to establish a communication link among Captains of the Port. At the present time, approximately one-half of all MSO/COTP units that are scheduled to be equipped with terminal devices are on line, permitting them to call up the data base and enter identification data concerning vessels that have sent the port a twenty four hour notice of arrival. Within that twenty four hour period, the Violations Histories of these vessels are printed out on the field unit terminal devices.

The Pollution Incident Reporting System (PIRS) was first promulgated in December 1971 for the purpose of collecting certain information concerning discharges of oil and other pollution incidents reported to the Coast Guard or discovered by Coast Guard personnel. PIRS originally collected data relating to the nature of the discharge itself. The system has now been enlarged to include data concerning response (cleanup) activities and penalty actions and contains a record of all enforcement actions that may be associated with an oil pollution incident: i.e., Civil Penalty action under Section 311(b)(6) of the Federal Water Pollution Control Act; Criminal fines assessed by U.S. Courts under Section 311(b)(5) of the Federal Water Pollution Control Act or under the Refuse Act of 1899; action against licenses or other documents under revised statute 4450; civil penalty issued for violation of the Pollution Prevention Regulations (33 CFR 154-156) in relation to the actual incident. As discharges are reported to or discovered by Coast Guard personnel, the information is recorded describing the nature of the spill, response and penalty data. The data is then sent via computer terminal to Coast Guard Headquarters where it is stored in a master file and updated monthly.

The PIRS data base provides a complete record of all discharges reported to or detected by the Coast Guard, and of all Coast Guard activity relating to those discharges.

The PIRS system is maintained at the Transportation Computer Center in the Department of Transportation, using a CDC 3300 computer for data entry and storage, and an IBM 360 computer for management reporting and analysis. A management reporting software package is used to provide a flexible and user oriented method of informal retrieval. All transactions are done in a batch processing mode.

The U.S. Coast Guard is proceeding toward the goal of amalgamating the above data systems into an overall Marine Safety Control System or Marine Safety Information System (see question 5.d. below) that, through terminal devices in field offices, will have the capability of providing a more comprehensive composite of a vessel's overall safety profile and the myriad of activites that impact on that profile.

Question:

5.(b) Are all deficiencies and noncompliances detected by Coast Guard inspectors entered in the data bases?

Answer:

Deficiencies and other irregularities detected during the course of a visit to a vessel will be handled several ways depending upon the nature of the visit and the flag of the vessel involved.

U. S. flag vessels that are required by law to have on board a valid Certificate of Inspection are inspected at prescribed intervals by trained marine inspectors. Deficiencies discovered during the course of this inspection are generally corrected prior to the completion of the inspection. Any minor deficiencies remaining at the completion of the inspection are sent to the vessel's owner with instructions to have the corrective action inspected by a marine inspector within a prescribed period of time. These deficiencies are noted in the inspection record book maintained at the local marine inspection office and are not entered in an automated data base.

Foreign passenger vessels calling at U.S. ports are examined by U.S. Coast Guard marine inspectors to insure that their life saving and emergency equipment is in accordance with the provisions of the Safety of Life at Sea (SOLAS) Convention. Irregularities are corrected on the spot and a record of this examination is maintained at the local marine inspection office and notification is forwarded to Coast Guard Headquarters in Washington, D. C.

Foreign freight and tank vessels embarking passengers from U.S. ports are examined by marine inspectors for compliance with SOLAS provisions so that a Control Verification Certificate can be issued to the vessel. Any deficiencies or non-compliances found will preclude the issuance of that certificate. Marine inspectors are presently examining foreign flag tankships, under the control provisons of Regulation 19, SOLAS to determine the condition of the cargo ventilation system and the liquid cargo pumping system. While U. S. Coast Guard Headquarters is notified of the examination, the reports resulting from this examination are maintained at the port performing the examination and bi-monthly headquarters notices are sent to all field units listing those vessels having deficiency letters and the port examining the vessel.

Upon receiving notification of an unsafe condition or another irregularity such as a Load Line violation or a discrepancy in the Cargo Safety Certificates or Radio Telegraphy Certificate on board a foreign flag vessel, the Officer in Charge, Marine Inspection may detain the vessel under the authority of Regulation 19, Chapter I, Part A, of the International Conference on Safety Life at Sea, 1960, until the discrepancy is corrected. Prior to taking such action, the foreign consul must be notified of these intentions and after the problem has been rectified, a report is submitted to the Intergovernmental Maritime Consultative Organization (IMCO) detailing the circumstances of the incident. Presently, the number of these reports is insufficient to justify creation of an automated data base for this purpose and the reports are maintained at Coast Guard Headquarters. There will be provision for this type of information to be maintained in the data system mentioned in questions 5.a. and 5.d.

U. S. Coast Guard personnel board U. S. and foreign flag tankships to ascertain that the vessel is in compliance with the pollution prevention regulations, 33 CFR 155, as well as to monitor transfer operations in accordance with the provisions of 33 CFR 156 and 46 CFR 35.35. They have the authority to secure cargo operations should conditions warrant such action. Should material deficiencies or violations of the regulations exist, either a Violation will be issued to the vessel and forwarded for inclusion in the PSRS or the Master of the vessel will be given a letter of non-compliance concerning the material deficiency and a copy of the notification will be forwarded to Coast Guard Headquarters. Should the vessel return to a U. S. port in the same condition, Coast Guard personnel will issue a violation to the vessel.

Question:

5.(c) To what extent are the tanker casualty data maintained and published by Lloyds of London used by Coast Guard inspectors to select vessels for inspection? Are these data incorporated into any Coast Guard data base?

Answer:

At present, Lloyds of London, Inc. casualty data is not being used as a selection mechanism to determine which vessel should be inspected by U.S. Coast Guard inspectors. Lloyds Weekly Casualty Reports published by Lloyds of London Press, Ltd. contain marine data regarding vessel sailings and casualties, general world wide weather and navigation data, port conditions, land fire and explosion data, aircraft casualty information, and miscellaneous information of a political nature in various countries having a maritime posture.

This source of casualty information has been periodically utilized by the U.S. Coast Guard to gather data on a particular subject when that data is beyond the scope of our existing reporting systems. Such a data base was created for the preparation of the technical paper, "Tankship Accidents and Resulting Oil Outflows, 1969-1973" presented at the 1975 Conference on Prevention and Control of Oil Pollution.

However, specific extraction of relevant data from Lloyds Weekly Casualty Reports and the tranferrance of meaningful data into an easily retrievable form would require the full time commitment of resources, personnel as well as monetory, to create a data system. While a commitment of this nature has not been made by the U. S. Coast Guard, the inclusion of Lloyds Casualty information into a future data system (see questions 5.a. and 5.d.) would be possible either utilizing Coast Guard personnel resources or through contractual agreements with non-government information gathering services that are presently or will soon be handling casualty information.

Question:

5.(d) Describe the vessel inspection information system designed by the Battelle Memorial Institute under contract with the Coast Guard. What are its applications with respect to the functions referred to in 3.(b) above, and its state of development or use? (See Traffic World, January 17, 1977, p. 37)

Answer:

In July 1974, the Office of Merchant Marine Safety in conjunction with the Office of Research and Development began a program to develop an information system for the Office of Merchant Marine Safety to support the commercial vessel inspection program. The purpose of the program was to develop an information system which would facilitate the improvement of vessel inspection standards and procedures by providing for the continuous collection, coordination, and feedback of relevant information to the program manager and the field inspectors. Toward this end, the system incorporate sufficient capabilities to permit proper reporting, storage, manipulation, and retrieval of information involving Coast Guard participants at all levels in the vessel inspection process to insure that the information is reported nearest its source. The name Vessel Inspection Information System (VIIS) was changed to Marine Safety Information System (MSIS) to reflect its broadened aspects (i.e., inclusion of marine safety functions other than just the inspection function). The program has recently achieved its first major milestone, the system design. The report entitled, "The Design of a Vessel Inspection Information System, Volume-I; System Design" documents in detail the design for MSIS. The next major milestone will be the development of an experimental prototype MSIS system followed closely by an evaluation phase. The final phase will be Coast Guard-wide implementation of the MSIS system.

A primary capability designed into the system is the ability to monitor deficiencies and non-compliances found during those activities performed by field personnel.

Question:

6. How many times has the Coast Guard been notified by IMCO or by one of its member states of:

(a) violation of "IMCO" regulations,

Answer:

Since its inception in 1959, IMCO, one of several specialized agencies of the UN, has become the internationally accepted forum in which worldwide maritime problems (except those concerning rates and tariffs) are evaluated. IMCO is the mechanism through which a great number of international agreements on safety and marine pollution have been achieved and amended as appropriate. IMCO does not possess any "regulatory" policies. International agreements, developed under the auspices of IMCO or for which IMCO now performs a function, can only enter into force by assent of the required number of governments acting through their individual legislative processes. The international agreement in effect today on the prevention of oil pollution is the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962. The current international agreement addressing vessel safety is the 1960 International Covention on Safety of Life at Sea (the third such agreement since 1926), as amended in 1966.

The Coast Guard has been notified of intervention action taken under Regulation 19 of SOLAS 60 against fourteen foreign tankers since 1972. This information is provided to the attending members at alternate IMCO conferences. Member states submit these reports only to IMCO and not to each other.

6. (b) a tanker casualty,

Answer:

The Coast Guard was notified of six foreign tanker casualties at the last IMCO conference which was held in 1976. This was the first time casualty information was provided by IMCO to member states. The Liberian government occasionally forwards a copy of investigation reports of a tanker casualty to the Coast Guard and Japan has forwarded one investigation report to the Coast Guard.

6. (c) or a pollution incident:

Answer:

According to the terms of the 1954 Oil Pollution Convention the U. S. would only receive reports of alleged contravention of the Convention by U. S. flag vessels in foreign waters. Conversely the U. S. is bound to report alleged contraventions of the 1954 Convention to the flag state of the vessel in question. The USCG has received six reports of alleged contraventions by U. S. vessels since 1969, including violations by two public vessels, which are exempt from the Convention.

Under the Federal Water Pollution Control Act (33 USC 1321), the USCG is expected to receive notification of all polluting discharges which may occur in the navigable waters of the U. S. including the territorial sea and contiguous zone. This applies to all vessels, foreign and domestic. All discharges of oil from vessels are required, by the 1954 Convention, to be recorded in an oil record book. Discharges which occur on the high seas are not required by international agreement to otherwise be reported.

Noting Resolution 15 of the International Conference on Prevention of Pollution of the Sea by Oil, 1962, IMCO was requested to produce reports from time to time for which contracting governments to the 1954 Convention would voluntarily contribute information on incidences of oil pollution. Today a synopsis of such reports is circulated at each meeting of the Marine Enviroment Protection Committee of IMCO (approximately every 6 months).

7.(a) What documents concerning tanker operations (such as ballasting and tank washing) or concerning tanker casualties and pollution incidents are required by U. S. regulations or IMCO "regulations" (a) to be carried on board U. S. and foreign-flag tankers and (b) to be presented for inspection?

Answer:

The documents required to be carried on board U. S. and foreign flag tankers by U.S. regulations or international conventions are an oil record book, the Certificate of Financial Responsibility, the Declaration of Inspectio and the oil transfer procedures.

The oil record book is required on vessels, with certain exceptions, registered in countries party to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962. Entries must be made on each occasion of any of the following operations: ballasting of, and discharge of ballast from, cargo tanks of tankers; cleaning of cargo tanks of tankers; settling in slop tanks and discharge of water from tankers; disposal from tankers of oily residues from slop tanks or other sources; ballastin or cleaning during a voyage, of bunker fuel tanks of ships other than tankers; disposal from ships other than tankers of oily residues from bunker fuel tanks or other sources; and accidential or other exceptional discharges or escapes of oil from tankers of ships other than tankers. Penalties for non-compliance are administered by each signatory country for its own vessels. The Oil Pollution Act of 1961, as amended, (33 USC 1001 et seq) is the U. S. law implementing this convention for U. S. vessels.

Under the Federal Water Pollution Control Act (FWPCA) 33 USC 1321) the Coast Guard promulgated Pollution Prevention Regulations for vessels and oil transfer facilities (33 CFR 154, 155, 156). These regulations require the posting of oil transfer procedures on board any vessel capable of carrying 250 barrels (10500 gallons) or more of oil that is transferring oil. The procedures must be legibly printed in a language understood by the crew and permanently posted or available at the control station or where they can be used. The regulations specify the information required in the procesdures. The Pollution Prevention Regulations also require a declaration of inspection to be signed by the person in charge of the oil transfer operation on board the vessel and on the facility before starting the transfer of oil to or from a vessel. By signing the declaration of inspection each person certifies that he or the other person in charge has determined by inspection that the facility and the vessel meet the requirements of the Pollution Prevention Regulations.

The FWPCA requires that any vessel over three hundred gross tons, except non-self-propelled barges not carrying oil as cargo or fuel, must carry a Certificate of Financial Responsibility issued by the Federal Maritime Commission. This certificate gives evidence of financial responsibility to meet the maximum liability for that vessel under the FWPCA for oil discharge cleanup.

Any of the documents listed above will normally be requested for inspection by the Coast Guard.

Question:

7. (b) Does this documentation contain enough data for the Coast Guard to obtain an accurate picture of the vessel's condition and history?

Answer:

None of the documents listed in 7.A. gives any data of the vessel's condition and history.

Question:

7. (c) Is the Coast Guard prohibited or prevented from inspecting any documents which relate to tanker operations and which foreign-flag tankers normally carry?

Answer:

The Coast Guard may request and examine documents carried by foreign flag vessels which are required by U. S. law or regulation, or by international convention to which the U. S. is a party.

QUESTION:

8. What percentage of tankers arriving in U.S. ports does the Coast Guard require to be inspected by MEP and CVS personnel?

ANSWER: For clarification, it is appropriate to delineate the difference between "inspection", "boarding", "examination" and "investigation". An "inspection" is a boarding entailing detailed and prescribed survey of a vessel in its entirety including structural sufficiency; life - safety systems; operational and static tests of main propulsion, auxiliary, and other engineerin systems; cargo containment, transfer and venting systems; navigation and vessel control systems; all vessel documents and licenses; crew habitability; and adequacy of manning. A "boarding", on the other hand, is the physical act of examining one or more items on a vessel where access to the vessel is non-scheduled and may be made from a floating unit or from dockside.

An "examination" may result from a boarding or from a request by the vessel owner/operator; it is limited with respect to scope and purpose. An "investigation" is a legal process which seeks to determine degree, blame, and/or cause for the adverse consequences of an incident (i.e. death, injury, property damage, pollution, misconduct, negligence, incompetence, and/or violation of law or regulation).

CVS personnel inspect 100% of all U.S. flag tankers on a biennial basis. A less stringent "mid-period inspection" is conducted on the in between years. Foreign flag tankers are not examined by the Coast Guard to the same degree as U.S. vessels are inspected.[1] Instead, foreign flag tankers are boarded and examined by both MEP and CVS personnel to ensure compliance with various domestic and international standards that are applicable to these vessels.

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[1] Foreign flag tankers of nations not signatory to the Safety of Life at Sea Convention, 1960 (SOLAS 60) are subject to the same requirements for inspection and certification as are U.S. tank vessels.

In connection with the Marine Environmental Protection program, the Coast Guard mission performance standards dictate the monitoring of 20% of all liquid bulk transfer operations involving oil or hazardous substances, including bunkering, on vessels having a tank capacity of 250 barrels or more. These same standards dictate that 15% of all vessels be boarded to check for compliance with the Pollution Prevention Regulations, 33 CFR Part 155.

With regard to the Commercial Vessel Safety program, the Coast Guard may, at the request of another government, examine a tanker registered in that country for compliance with Regulations of SOLAS 60 and issue the certificates provided for therein. The Coast Guard also examines foreign flag tankers that embark passengers in the U.S. leading to the issuance of a Control Verification Certificate.

The Coast Guard boards and examines tankers to check for compliance with the International Load Line Act of 1973 whenever it appears that a vessel is in violation of that Act. Possible violations are detected by Coast Guard harbor patrols, personnel boarding vessels for other purposes, information from faciliti etc. The Coast Guard requires 100% detected violations to be investigated.

The Coast Guard examines foreign flag tankers carring certain bulk dangerous cargoes, as outlined in 46 CFR Part 154, for the purpose of issuing a Letter of Compliance. The Letter of Compliance is issued upon completion of a plan review and initial examination of a vessel. The vessel is then reexamined biennially. Since a foreign flag tanker may not enter territorial waters with a bulk dangerous cargo or load such a cargo in a U.S. port without a Letter of Compliance, 100% of these vessels must be examined.

QUES. What is the percentage of vessels that are, in fact, inspected?

ANS. Refer to table below:

	CG Standard	Actual
U.S. Tankers		
(1) Annual inspection by CVS personnel.	100%	100%
Foreign Flag Tankers		
(1) Inspection for issuance of SOLAS 60 certificates.		
a) Examination by CVS personnel upon request of vessel's government.	100%	100%
(2) Examination for issuance of Letter of Compliance. (bulk dangerous cargoes)		
a) Examination by CVS personnel upon request of owner/operator.	100%	100%
(3) Examination of vessels embarking passengers.	100%	100%
(4) Examination of all other tank vessels Control Verification under international accord (SOLAS 60, Load Line, Officer Competency)	None	0-1% (See Ques. 11)
All Tankers		
(1) Random boarding to monitor transfer operations by MEP personnel.	20%	12%
(2) Random boarding to verify compliance with Pollution Prevention Regulations.		
a) Initial inspection of all vessels to verify compliance by CVS personnel.	100%	100%
b) Random boarding of vessels to ensure continuing compliance by MEP personnel.	15%	15%
(3) Loadline		
a) Random check for possible violations by MEP personnel.	20%	10-12%
b) Investigation of all reported violations by CVS personnel.	100%	100%

QUES. How much percentage has each increased in the last four years?

ANS. For those categories where the actual percentages are less than 100%, the percentages have not increased over the last four years due to resource constraints.

Question:

9. (a) What criteria are used for selecting tankers and barges for inspection?

Answer:

a. Boardings

Tankships and tankbarges carrying oil for cargo are boarded and checked for compliance with U. S. Pollution Prevention Regulations by Coast Guard personnel. Presently the Coast Guard attempts to board 15% of all tank vessels and monitor 20% of all oil transfers. Boardings are generally on a random basis unless the COTP/MSO has knowledge of a history of discharges or noncompliance with the regulations as indicated below.

Reports of violations of U. S. regulations for pollution prevention and port safety are entered into the computerised Port Safety Reporting System (PSRS). Any Coast Guard Captain of the Port (COTP) may request the violation history of any merchant vessel. Some COTPs presently have direct access to the computer while others must telephone Coast Guard Headquarters during normal working hours. The system is being expanded to allow more COTPs better access. The system was designed to provide COTP personnel with information for the boarding of vessels to check for compliance with regulations. Vessels with a history of more serious violations are boarded more often than ones with few or no violations.

Inspection/Examination

The Coast Guard inspects all U.S. tankers and barges at least every 2 years for certification. Foreign tankers are only inspected when the vessel's home government requests that the Coast Guard conduct an inspection for issuance of a SOLAS Safety Equipment Certificate on their behalf. The Coast Guard does not issue SOLAS Safety Construction Certificates to foreign vessels.

Question:

9. (b) Are barges selected on the basis of a different criteria?

Answer:

No.

Question:

10. How does the Coast Guard define an inspection? Does an inspection always include the actual boarding of a vessel? If so, what documents and equipment are examined?

Answer:

In order to fully answer this question it is first necessary to define several terms as utilized by the Coast Guard.

a. An "initial inspection" includes complete plan review of the vessel and its components and physical survey of the construction, quality assurance, and equippage during construction.

b. An "inspection" includes a complete physical survey of the complete vessel, its components and equippage to assure maintenance of the standards required.

c. A "drydock examination" may or may not be part of an inspection. Generally it can be considered as part of an inspection. It consists of a survey of the vessels underwater structure and appurtenances with the vessel in dry dock.

All U. S. vessels subject to the Vessel Inspection Laws are subject to "initial inspections", "inspections" and "drydock examination" by CVS personnel.

d. An "examination" is a limited survey of a Foreign vessel to verify that the vessel is in compliance with the provisions of international accord and the documents issued thereunder. It is generally performed by CVS personnel.

e. A "boarding" is a physical boarding of any vessel, domestic or foreign, while at dock, at anchor, or underway, usually performed by MEP/PSS personnel. Its purpose is to spot check for compliance with domestic pollution prevention and safety requirements and usually includes a check of the vessels documents certifying compliance with international accord.

An inspection therefore does include a physical boarding, but not a "boarding" in the terms of the foregoing definition.

An "inspection" results in the issuance of a Certificate of Inspection and other documents certifying compliance with international accord.

Generally the same documents and equipment are covered by "inspections" and an "examination", the difference is one of degree.

Documents checked include the following: Registry, Certificate of Inspection and amendments, Stability Letter, Loadline Certificate, SOLAS Construction Certificate, SOLAS Equipment Certificate, SOLAS Radiotelegraphy/Radiotelephony Certificates, SOLAS Exemption Certificate, Letter of Compliance for Foreign Vessels Carrying Bulk Dangerous Cargoes, Certificate of Financial Responsibility, Ships Officers Licenses, Control Verification Certificate, FCC certificates, inflatable liferaft servicing certificate, and firefighting equipment servicing certificate.

Equipment inspected or examined includes: Boilers, pressure vessels, main and auxiliary machinery, electrical equipment, cargo handling and transfer equipment, lifesaving equipment, firefighting and fire detecting equipment, pilot ladders, sound signals, distress signals, and all other emergency, safety and navigation equipment.

Question:

11. Is the Coast Guard prohibited or inhibited by international agreement from taking any action in navigable waters subject to U.S. jurisdiction or control which is necessary to adequately inspect vessels registered under a foreign flag?

ANSWER: As a contracting government to the International Convention for the Safety of Life at Sea, 1960, the United States has agreed to limit its control over the vessels of other contracting governments. Under Regulation 19 of SOLAS, 1960, this control is limited to verifying that there are aboard valid, appropriate certificates. Such certificates are to be accepted unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates. A literal interpretation would essentially limit all control under this article to a check of documents. The interpretation of the U.S. Coast Guard is that sufficient examinations, tests, and investigations be made to become satisfied that the vessels are in reasonable compliance with the standards contemplated by the 1960 SOLAS Convention.

As a contracting government to the International Convention on Load Lines, 1966, the United States has agreed to limit its control over the vessel of other contracting governments to verifying that a valid Load Line Certificate is aboard.

If such a valid certificate is aboard, control is limited to the purpose of determining that:

a) the ship is not loaded beyond the limits allowed by the certificate;

b) the position of the load line of the ship corresponds with the certificate; and

c) the ship is not manifestly unfit to proceed to sea without danger to human life because of material alteration of the hull, superstructure, or fittings and appliances for protection of openings, guard rails, freeing ports, or means of access to crew's quarters.

Neither of the above conventions, nor any other convention which the U.S. is signatory to, are felt to be so constraining that the Coast Guard would be prohibited from conducting, on a case-by-case basis, an adequate examination to ensure the seaworthiness of these vessels. It is felt, however, that the above mentioned conventions are sufficiently stringent that the Coast Guard would be inhibited from conducting a complete inspection including drydocking, a detailed internal inspection of all cargo tanks and hull structure and a detailed inspection of equipment, unless of course, there are clear grounds that such an action is warranted.

Ques. 11. Cont... Is it (the Coast Guard) likewise prohibited or inhibited from taking any punitive action, including fines, denial of entry, or arrest of responsible personnel?

ANS. International accords for the most part are recognized in domestic safety legislation and implementing regulation. Only in those cases where domestic regulations exceed the provisions of international accords can the Coast Guard take punitive action. For non-compliance with the provisions of SOLAS and the Officer Competency Convention, a vessel may be detained, but not denied entry or fined. For violation of the Load Line Convention (and implementi domestic legislation), a vessel may be fined for arriving overloaded or detained if attempting to leave overloaded. Most of the pollution prevention laws and regulations are not exempt under international accord and the full scope of punitive action is available.

Question:

12. Does the Coast Guard accept as valid all Certificates of Compliance with current IMCO conventions issued by foreign states without physically examining those items covered in the certificate?

Answer:

In the examination of foreign vessels subject to IMCO Convention, it is intended that the duplication of examinations be avoided as much as possible. Vessels subject to the conventions are normally inspected regularly by their home governments and are examined by the Coast Guard only to the extent necessary to be satisifed that the safety standards contemplated by the conventions are being maintained. The degree of examination control required for a given vessel varies according to its trade and manner of operation. Thus, a vessel having a valid Convention Certificate and operating out of its home country on a regular schedule so that it is subject to regular and frequent checks by the home government receives a minimum of examination attention by the Coast Guard. Those vessels that operate out of the home countries for extended periods with no opportunity for regular examinations by the home government are examined more completely, particularly when the vessel embarks passengers at U.S. ports. The Coast Guard has no established frequency for conducting examinations of foreign tank vessels except for those vessels which embark passengers at U.S. ports and those vessels which carry bulk liquid cargoes considered to involve potential or unusual operating risks to life and property. Examinations of conventional foreign tank vessels are conducted under the following circumstances:

a. When a vessel suffers a marine casualty in U.S. waters.

b. When a report is received that a vessel may be in an unseaworthy condition which may threaten the safety of the crew, passengers or port.

c. When a vessel is reported overloaded, i.e., loadline marks submerged.

d. More recently (Jan 1977), to examine the integrity and maintenance of cargo venting and handling systems and to insure use of proper transfer procedure.

In addition to the above, all foreign tank vessels are initially examined to verify compliance with the Pollution Prevention Regulations, Title 33, Part 155. Follow up boardings are intended to assure continued compliance.

Question:

13. (a) Can the Coast Guard deny entry to U.S. waters to a foreign-flag vessel on the basis of casualties or pollution incidents that may have occurred in waters not under the jurisdiction or control of the United States?

Answer:

Current law and regulations are not sufficient to bar a foreign flag vessel with a record of casualties or pollution incidents from entering U.S. territorial waters. However, there is statutory authority for denying entry of any vessel into a U. S. port if in the consideration of the COTP the ship poses a threat to the security of the port environment. The Ports and Waterways Safety Act, (PL 92-340) 1972, Title I, Section 101, 3(i) and (8); and 33 CFR 6-04-604.8 provide this working authority. The denial of entry is implemented subsequent to a boarding of the vessel by the COTP and determination that unsafe conditions exist which would jeopardize the port or other vessels in the port. Additionally, if a vessel of a country signatory to the Safety of Life at Sea Convention (SOLAS), 1960 is found to be in an unseaworthy condition which threatens the safety of passengers or crew, the Coast Guard may detain the vessel in accordance with Chapter I, regulation 19 of the aforementioned convention until such conditions are satisfactorily corrected.

Question:

13. (b) How many times since 1973 has the Coast Guard denied entry to a U.S. port to a foreign-flag tanker?

Answer:

The following foreign flag tank ships/barges were denied entry into U.S. ports during the period 1975-1977. (Years for which statistics were available.)

	VESSEL	NATION OF REGISTRY
1.	CAPETAIN MATHIOS	GREECE
2.	ANSON	CYPRUS
3.	LNG BARGE PETROQUIMCO NO. 1	MEXICO
4.	ATTICA	LIBERIA
5.	PATRIA	LIBERIA
6.	GLOBTIK SUN	BAHAMAS
7.	CRYSTAL	LIBERIA
8.	PERMINA SAMUDRA VII	LIBERIA
9.	HAVIS	NORWAY
10.	GOLDEN JASON	LIBERIA
11.	VERMONT	PANAMA
12.	AFRODITE	NORWAY
13.	ARGO MERCHANT	LIBERIA
14.	STOLT SURF	LIBERIA
15.	ATHENIAN STAR	CYPRUS
16.	PYTHAGORE	PANAMA
17.	FARADAY	GREAT BRITIAN

Question:

14. How many times has the Coast Guard levied fines against U. S. or foreign-flag tankers since 1973. What is the aggregate amount of such fines levied and collected? On what basis does the Coast Guard determine the amount of the fine?

Answer:

The U. S. Coast Guard, as an executive agency, does not have the authority to assess fines, which may only be imposed by U. S. district courts for criminal violations. The Coast Guard does assess civil penalties under section 311(b)(6) of the Federal Water Pollution Control Act (as amended (33 USC 1321 et seq)) for illegal discharges of oil into waters of the United States or the Contiguous Zone and for violation of the Tanker Act (as amended (46 USC 391a)) and other statutes administered by the Coast Guard. Table I includes statistics pertaining to FWPCA actions, Table II includes statistics relating to all other civil penalty actions.

The amount of the penalty assessed is discretionary and is assessed on the basis of the severity of the violation and the past history of the vessels.

TABLE I

Civil Penalties Assessed Under Section 311(b)(6), FWPCA for Illegal Discharges of Oil Into the Waters of the United States or Contiguous Zone[2]

Calendar Year	1973	1974	1975	1976 (Data Incomplete)
# Discharges from all Sources	11,003	11,440	10,141	5,585
Vol Discharges from all Sources	15,142,746	15,801,794	14,439,597	12,423,590
# Civil Penalties Assessed[1]	3,442	3,902	3,113	416
$ Assessed	$3,935,821	$3,351,480	$2,090,853	$184,680
$ Collected	$1,809,236	$1,492,215	$1,020,559	$135,995
# Discharges from U.S. Tank Vessels	346	381	306	136
Vol Discharges from U.S. Tank Vessels	1,549,277	89,519	1,385,532	239,917
# Civil Penalties Assessed[1]	279	279	166	89
$ Assessed	$322,796	$221,300	$135,450	$9,875
$ Collected	$192,415	$98,850	$60,975	$7,275
# Discharges from Foreign Tank Vessels	294	446	302	114
Vol Discharges from Foreign Tank Vessels	2,703,111	1,078,145	1,401,196	40,030
# Civil Penalties Assessed[1]	221	327	154	18
$ Assessed	$320,193	$380,190	$154,725	$13,350
$ Collected	$169,993	$221,390	$82,075	$5,350

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[1] In all instances, it should be noted that the number of cases in which penalties were assessed is less than the number of discharges reported. This difference is due to one or more of the following reasons:

a. The majority of cases wherein penalties were not assessed was where the source of the spill could not be identified.

b. Investigation showed that the spill occurred outside of U.S. jurisdiction.

c. The probable source was identified but there was insufficient evidence to support a penalty action.

[2] Penalties under Section 311(b)(6) are limited to a maximum amount of $5,000. The law makes a penalty mandatory if the source can be identified and the violation can be established. Factors which may be considered by USCG Civil Penalty hearing officers are:

a. The gravity of the violation
  1. Was the discharge intentional?
  2. Could it have been prevented?
  3. Was the discharge a violation of prevention regulations?
  4. Was there a minimum amount of oil discharged?

TABLE 2

A. Violations of Regulations Issued by the Coast Guard during 1973, 1974, 1975, and 1976.

1. Foreign Vessels

a. Violations of 33 CFR 154, 55, 56.

involving penalty assessment	44	(penalty assessed $9,780)
(Spot Correction, letter of warning, etc.)	539	
	583	

b. Violations of 46 CFR

involving penalty assessment	42	($5,520)
no penalty assessment	582	
	624	

c. Violation of other regulations

involving penalty assessment	1	($100)
no penalty assessment	85	
	86	

TOTAL FOREIGN VESSEL	87	($25,180)
	1206	
	1293	

2. U. S. Vessels

a. Violations of 33 CFR 154, 55, 56

(1) Barges

involving penalty assessment	11	(penalties assessed $1,650)
no penalty assessment (Spot Correction, letter of warning, etc.)	391	
	402	

(2) Tankships

involving penalty assessment	7	(penalties assessed $900)
no penalty assessment (Spot Correction, letter of warning, etc.)	156	
	163	

b. Violations of 46 CFR

(1) Barges

involving penalty assessment	12	($7,500)
no penalty assessment	190	
	202	

(2) Vessels

involving penalty assessment	1	($100)
no penalty assessment	183	
	184	

c. Violations of other regulations

(1) Barges

involving penalty assessment	5	($925)
no penalty assessment	11	
	16	(

(2) Tankships

involving penalty assessment	0	
no penalty assessment	24	
	24	

TOTAL U. S. VESSELS (all violations)

(1) Barges

involving penalty assessment	28	($10,075)
no penalty assessment	592	
	620	

(2) Vessels

involving penalty assessment	8	($1,000)
no penalty assessment	363	
	371	

3. GRAND TOTAL ALL VESSELS AND BARGES 1973 - 1976

involving penalty assessment	123	($36,255)
	2,161	
	2,284	

15. (a) Does the Coast Guard currently inspect the qualifications of foreign masters and tankermen?

Answer:

The Officers' Competency Certificates Convention, 1936 (International Labor Organization Draft Convention numbered 53, "concerning the mimimum requirement of professional capacity for masters and officers on board merchant ships"), as ratified by the President on 1 September 1938, is applicable to all vessels of the various countries signatory to the Convention, including Liberia. The agreement, enforced in the United States as Title 46 USC 224a, applies to foreign vessels of signatory flag states and permits examination as necessary to determine compliance with the terms of the convention. Under terms of the convention the foreign flag state is in fact certifying to the training and qualification of its ship's officers.

Although there are no standards set forth for unlicensed tankermen employed on board foreign vessels, the occasions where they might be in charge of the transfer of bulk liquid cargo are extremely rare. However, in such cases where an unlicensed person is in charge, should the Coast Guard feel that there is a danger to the environment because of the questionable expertise of the person in charge, the Ports and Waterways Safety Act of 1972 grants the authority to order that the transfer operation be immediately terminated.

Question:

15. (b) The January 11, 1977, Interim Report of the Department's Marine Oil Transportation Task Force contains recommendations on page 27 which relate to U. S. actions in IMCO concerning standards for the qualifications and trainin of licensed and unlicensed personnel on board tankers and other vessels. We

would like to have the Coast Guard's comments on each of these recommendations and information as to any proposed Coast Guard actions in response thereto.

Recommendation 1:

The Task Force recommends that the U. S. delegation to IMCO seek to accelerate the preparations for the conference on international standards for qualification and training of licensed and unlicensed personnel on board vessels, and to expedite the convening of the conference.

Answer:

The U. S. Delegation is planning to request at the Marine Safety Committee meeting to be held in April 1977, that consideration be given to holding the conference in the spring of 1978, rather than the presently planned autumn of 1978.

Recommendation 2:

The Task Force recommends that the U.S. seek to insure that control provisions are incorporated in the proposed 1978 Maritime Crew Training and Certification Convention which will permit the U. S. to deny entry to vessels which have unqualified or insufficient crews.

Answer:

The article, as presently drafted, doesnot contain a provision to deny entry of vessels which have unqualified or insufficient crews. However, this matter is scheduled for further discussion at the 1978 Maritime Crew Training and Certification Convention.

Recommendation 3:

The Task Force recommends that the U. S. seek to incorporate specific experience and examination criteria in the Convention approximating those in the U. S.

Answer:

The experience and examination requirements do approximate those of the U. S. in most respects, and in fact, exceed the U. S. requirements in scme areas.

Recommendation 4:

Task Force recommends that the U. S. press for early worldwide implementation of IMCO Resolution A 285 -- "Basic Principles to be observed in Keeping a Navigational Watch."

Answer:

This is also an item scheduled for further discussion at the Maritime Safety Committee meeting presently scheduled for April 1977. It will be reemphasized at the 1978 Conference on International Standards for Qualification and Training of Licensed and Unlicensed Personnel on Board Vessels, since it has been incorporated as a mandatory requirement of the draft articles of the Convention.

Recommendation 5:

The Task Force recommends that the Coast Guard support and encourage efforts to adopt a common language for navigational use.

Answer:

The IMCO Sub-Committee on Standards of Training and Watchkeeping have recognized that the use of one common language for navigation purposes is becoming more and more important, and have further stated that this language should be english. They have also compiled a Standard Marine Navigational Vocabulary, which was approved by the Maritime Safety Committee at it's meeting in May 1976. The eventual adoption of this recommendation is anticipated.

B. COAST GUARD RESPONSES TO QUESTIONS OF MARCH 25, 1977

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

MAY 23 1977

Honorable John L. Burton
Chairman, Subcommittee on Government
  Activities and Transportation
Committee on Government Operations
House of Representatives
Washington, D.C. 20515

Dear John:

In your letter of March 25, you requested the Coast Guard to provide answers to written questions raised during your recent Subcommittee hearings on tanker safety.

In accordance with my instructions, the Coast Guard has prepared the enclosed reply.

Please let me know if I or members of the Department's staff can be of further assistance on this. We welcome the opportunity to work with you on this important issue.

Sincerely,

Brock

Brock Adams

Question: 1.a.

When does the Coast Guard plan to implement this program? In what stages will it be implemented?

Answer:

The Coast Guard has had a limited foreign tank vessel examination program in effect for many years. However, there has been no established frequency for conducting examinations of foreign flag tank vessels except for those vessels which embarked passengers at U.S. ports and those vessels which carry bulk liquid cargoes considered to involve potential or unusual operating risks to life and property. Examinations of conventional foreign tank vessels have been conducted under the following circumstances:

(a) When a vessel suffered a marine casualty in U.S. waters

(b) When a report was received that a vessel may be in an unseaworthy condition which may threaten the safety of the crew, passengers, or port.

(c) When a vessel was reported overloaded, i.e. loadline marks submerged.

In addition to the above, all foreign flag tank vessels are initially examined to verify compliance with the Pollution Prevention Regulations, Title 33, Part 155.

In January 1977 the Coast Guard expanded the scope of this program with initial emphasis being placed on the examination of cargo venting and handling systems and proper transfer procedures. In response to the recent Presidential initiatives the scope of the foreign flag tanker examination program is being formalized and further expanded. The expansion will include an examination for compliance with all safety and pollution standards presently applicable to foreign flag tankers under both domestic regulations and international agreement.

This essentially new program element has been given the highest priority and is presently being pursued with examinations being conducted utilizing existing personnel resources.

The efficiency and effectiveness of the program will continue to improve and expand as additional resources become available. It is anticipated that all of the necessary additional trained personnel will be available by July 1, 1979 and that each foreign flag tanker entering U. S. ports will be examined at least once a year and more often if necessary.

Question: 1(b)

To what extent will the basis for the Coast Guard Commercial Vessel Safety (CVS) Program with respect to foreign tankers continue to be a series of international agreements? Will the Coast Guard continue to accept the provisions of SOLAS-60, LOADLINE, and other IMCO conventions, whether ratified or pending, which pertain to vessel construction and equipment as the principal standard for compliance by foreign-flag tankers?

Answer:

As required by statutes, the basis of the Coast Guard CVS program with respect to foreign tankers is both international agreement and other domestic requirements. For example, in addition to having to comply with SOLAS '60, the Loadline Convention, and other international Conventions, foreign vessels must also comply with pollution prevention regulations issued under the authority of the FWPCA, the regulations issued under the authority of the Ports and Waterways Safety Act as well as other Coast Guard regulations. No change in this basic approach is anticipated. As directed by President Carter, the Coast Guard will intensify its present efforts to upgrade international standards, particularly in the area of tanker inspection and construction standards. Further, the Coast Guard will continue to enforce the Conventions as is provided in the treaties.

Question: 1.c

If so, will the Coast Guard continue to accept SOLAS '60, Loadline, and other IMCO-based certificates at face value?

Answer:

Each of the conventions contains certain provisions which, to a degree, limit the scope of action which can be taken unless clear grounds exist for believing a vessel is not in compliance with its certificate. However, the examination of foreign flag vessels subject to international convention requirements is not new to the Coast Guard. Examinations of such vessels which embark passengers from U. S. ports have been conducted on a regular basis for many years. These examinations have not been limited to a check of the vessel's documents but consisted of sufficient checks, tests and examinations to insure that the vessel was in reasonable compliance with international standards. Investigations of casualties and complaints on foreign flag vessels have resulted in examinations for compliance with international standards.

Question: 1.d.

When will these certificates not be accepted at face value? In these instances, which items in the certificates will actually be examined to determine compliance?

Answer:

As stated in (1c) IMCO-based certificates are not accepted at face value, although there are certain constraints on our actions. Tank vessels will be examined to the extent necessary to insure compliance with the various international conventions as well as applicable domestic law and regulation. The examinations are now oriented toward verifying that vessels are properly maintained, manned and equipped to safely navigate.

Question: 1.e.

How will the inspections of foreign flag tankers differ from the inspections of U.S. tankers regularly conducted by the Coast Guard OCMI?

Answer:

Foreign flag vessels will be "examined" not "inspected". These terms were defined in the response to question 10 "Response to Questions forwarded by Representative John L. Burton, 9 February 1977". Inspections of U.S. vessels are generally much more detailed, thorough and complete than are the examinations conducted on foreign flag vessels. Foreign flag vessels are examined to the extent necessary to verify that such vessels are in compliance with international requirements and applicable domestic regulations. In those cases where there is evidence that the vessel is improperly maintained, equipped or manned, the vessel is given a more thorough examination and apropriate action is taken to reduce the risk presented by the vessel to a level commensurate with the acceptable U.S. standards.

Question: 1.f.

Why is the term "boarding" rather than "inspection" used in item (4) of the White House Fact Sheet?

Answer:

Although the Coast Guard uses the terms "boarding", "examination", and "inspection" in a very precise manner, as indicated in the response to question 10 of the responses to Representative Burton's questions of 9 February 1977, others do not. The term "boarding" in the fact sheet should be read as "examination". The term boarding is used by the Coast Guard to describe the presence of a Coast Guard official on board the vessel for purposes other than examination. For example, a vessel may be boarded for the purpose of monitoring the safe discharge of cargo.

Question: 1 (g)

Will the Coast Guard's new boarding program be utilized to determine whether foreign flag tankers are in compliance with the five construction and equipment requirements announced by the President?

Answer:

Yes, the Coast Guard's examination program would be used for this purpose as well as for determining whether or not the vessel is in compliance with international conventions and applicable U. S. regulations. In addition, the Coast Guard would require a plan review of segregated ballast, double bottoms, inert gas systems, and emergency steering systems prior to new construction or retrofit.

Question: 1.h.

The March 18, 1977, White House Fact Sheet, which followed the President's message, stated that "any deficiencies in the tanker's condition will be required to be corrected." In what circumstances will they be required to be corrected while the tanker is in a U.S. port? In what circumstances will they be required to be corrected before this tanker re-enters any U.S. port?

Answer:

Deficiencies required to be corrected immediately upon detection while the tank vessel is in a U.S. port are those that are an imminent threat to the safety of the port, crew, or environment. Deficiencies required to be corrected with time allowed are those that have been temporarily corrected to ensure safety for a given period of time. If permanent repairs have not been made after that period has lapsed, a re-evaluation of the temporary repair will be made which could result in denial of vessel entry if the vessel is considered a hazard to the safety of the port or the environment.

Question: 2. (a)

When will the design of the prototype of this system be completed? When will the system become fully operational?

Answer:

The Marine Safety Information System is a U. S. Coast Guard Research and Development project with the forthcoming phase of this multiprogram effort being the development of a prototype. The prototype development and test phase of the Marine Safety Information System will be conducted over a twenty four month period. The first stage will consist of development of the software for the prototype as specified in the original design. This stage will encompass a sixteen month period that will include a brief proficiency test during the twelfth month of the development effort. The second stage, an eight month period, will consist of testing, evaluating, and reconfigurating the prototype to its final design form. The testing will be performed in several ports of varying size and will serve as a means of determining the optimal mix of hardware and software for ports with differing marine safety activity levels. At the conclusion of this twenty four month period, the system will be operational.

Since the Marine Safety Information System will not be available for several years, the U. S. Coast Guard is expanding the capabilities of the existing Port Safety Reporting System (PSRS) to provide the information noted in the Presidential message of 17 March 1977. This interim system will serve the needs of the Tanker Boarding Program until such time as the long range Marine Safety Information System is fully operational.

Question: 2. (b)

When will all COTP/MSO's have direct access to information contained in the system? Will this access be on a real-time basis?

Answer:

The interim system noted in question 2 (a) above will provide tankship information to all Coast Guard Captains of the Port and Officers in Charge Marine Inspection as indicated by the President's message. By 1 July 1977, the Port Safety Reporting System will have been modified to provide a capability to accomodate additional data as well as decrease response time. Additional terminals will be added to the system so that by 1 September 1977, all tanker ports will have access to the data in the system.

Question: 2. (c)

Will this system incorporate information currently contained in the Coast Guard's Pollution Incident Reporting System (PIRS), the Port Safety and Security Reporting System (PSRS), and the Automated Casualty Reporting System?

Answer:

The expanded Port Safety Reporting System will contain, in addition to the vessel's violation history, the boarding and examination history, the deficiency history, the pollution history and the accident history of tankships calling at U. S. ports. The Pollution Incident Reporting System (PIRS) will be the source of a tank vessel's pollution history while the Automated Casualty Reporting System will provide part of the data for the accident history.

Question: 2. (d)

Will the Coast Guard set up operating procedures allowing information contained in the system to be provided to inspectors who board a particular tanker so that they will have knowledge of that vessel's history?

Answer:

The primary purpose of the system, from its inception, is to provide the field inspector with data concerning an individual vessel prior to his visiting that vessel for whatever reason. A manifestation of that purpose is the inclusion of those existing systems noted in question 2 (c) above so that an inspector will have a greater perspective of that vessel's prior involvements at the outset of his visit to that vessel.

Question: 2. (e)

Will this system incorporate casualty data currently published by Lloyd's of London?

Answer:

The system will have a mechanism for including data generated from outside sources. However, as a cautionary note, it is of primary importance that the source and accuracy of such data be verified prior to entry into the system.

Data currently published by Lloyd's of London is available from several sources. Tanker casualty data will shortly be retrievable from Marine Management Systems computer network. Lloyd's of London casualty data is in the process of being automated and thereby more available for easy inclusion in the Marine Safety Information System. When the system is ready to receive such data, the types, sources, and form of this information will be thoroughly considered.

Question: 2. (f)

Will the system incorporate changes in ownership, vessel name, and classification society?

Answer:

Information pertaining to vessel's name and ownership/operator changes for U. S. flag vessels are currently available through the Documentation process or the Inspection and Certification activities. General vessel information (including vessel name and ownership) supplied by American Bureau of Shipping, Lloyd's Register, and Det Norske Veritas will be utilized where necessary at such time as a tankship file is initially created in the expanded Port Safety Reporting System. The long range Marine Safety Information System will more fully utilize data developed by classification societies. Presently, efforts are underway considering various methods of obtaining major stockholder and ownership information.

Question: 2 (g)

What procedures will the Coast Guard use to obtain accurate information as to the names of tanker owners and major stockholders? Will the names include beneficial as well as legal or nominal owners?

Answer:

The President, in his March 17, 1977 message to Congress on Marine Oil Pollution, stated, "We will also require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and included in this Marine Safety Information System." The procedures for implementing this initiative are under study. There are a number of complex legal and policy issues involved. The Committee will be advised when the procedures are developed.

Question: 2. (h)

Will the Coast Guard attempt to seek access to information on vessel casualties held by the American Bureau of Shipping (ABS)? Has it ever attempted to use such information in the past?

Answer:

The U. S. Coast Guard maintains close liaison with the American Bureau of Shipping and has purchased information from their files. However, much of their data is of a proprietary nature and, as such, is not available to agencies such as the U. S. Coast Guard. Certain ABS casualty data is available in a statistical or summary form and is non-vessel specific. One important aspect of casualty information, particularly with respect to vessel history, is the cause of the casualty. As an example, providing an inspector with an insight to a vessel requires more than just a description of the damage due to a recent grounding. A knowledge as to whether personnel fault or machinery failure was the primary causal factor is important to his overall evaluation of conditions on that vessel. Information of this specific nature is generally not available from sources outside of the U. S. Coast Guard.

Question: 2(i)

Describe the expansion which the Coast Guard anticipates, in terms of funds and personnel, to implement this information system?

Answer:

Budgetary planning anticipates a request for the following additional funds and personnel, beyond that already programmed:

FY 1977 - 1 CIV Position; $14K

FY 1978 - 18 Military Billets; $971K

FY 1979 - 37 Military Billets; $2,200K

FY 1980 - 37 Military Billets; $1,600K

FY 1981 Recurring - $1,100K

Question: 2. (j)

Will information contained in the system be readily available to the public?

Answer:

Public access to information contained in the Marine Safety Information System will be in accordance with the provisions of the Freedom of Information Act and the Privacy Act.

Question: 3.

The Coast Guard has denied entry to several foreign-flag tankers in the last several years. What is its authority for taking this action, and what are the limits of that authority?

Answer:

Coast Guard Captains of the Port (COTP) have authority under both the Magnuson Act (50 USC 191) and the Ports and Waterways Safety Act (PWSA) (33 USC 1221-7) to deny entry of vessels into U.S. ports once those vessels are in U.S. territorial waters.

The Magnuson Act authority is implemented in 33 CFR 6.04-8, which provides that the COTP "may supervise and control the movement of any vessel and shall take full or partial possession of any vessel... {when it} is necessary in order to secure such vessel from damage or injury, or to prevent damage or injury to any vessel or waterfront facility or waters of the United States...."

The PWSA authority is implemented in 33 CFR 160.35, which authorizes Coast Guard District Commanders, Captains of the Port and their authorized representatives to "direct the anchoring, mooring, or movement of a vessel when necessary to prevent damage to or by that vessel or her cargo, stores, supplies, or fuel" and to specify times of vessel movement and restrict vessel operations under hazardous conditions or in hazardous areas.

This authority of a Coast Guard COTP to deny entry of a tanker into a U.S. port is limited to those situations described in these regulations. There is sufficient authority in the regulations for a COTP to deny entry to a tanker when necessary to preserve the safety or environment of a port only after a tanker has entered U.S. territorial waters.

Another possible limitation upon the COTP's authority is the existence of treaties of friendship, commerce and navigation (FCN treaties) between the United States and most maritime nations. Many of these provide that foreign vessels be treated in the same manner as U.S. domestic vessels. As long as COTPs deny entry to both foreign and U.S. vessels when port safety or environment is threatened, FNC treaties should not limit exercise of these COTP powers.

Question: 4

The March 18 White House Fact Sheet states that five construction and equipment requirements "would take full effect within five years." Please discuss each of the five listed proposals in terms of the needs for five years in order for it to become fully effective?

Answer:

Explicit in President Carter's program is the desire of the U. S. to work within the existing international forums to upgrade and strengthen the international standards for tanker construction and equipment. The purpose of the five-year provision of the program is twofold: First, to allow a reasonable opportunity for good faith negotiations with the international community; second to provide the required time for retrofitting of existing ships.

The proposed regulations presently being developed will not be finalized until after a reasonable period of time has elapsed so that good faith negotiations can occur at IMCO. The final regulations will be promulgated taking into account the results of the negotiations and related international agreements. The final standards for new tankers will become effective for tankers contracted after the effective date of the regulations. The final standards for existing tankers will provide the needed time period for retrofit, in all cases within five years from March 1977.

Question 5:

> The Fact Sheet also states that "rules should allow the adoption of technological improvements and alternatives which can be shown to accomplish equivalent pollution prevention." What alternatives would these be in each of the proposed regulations?

Answer:

We do not have any specific alternatives in mind at this time. The intent of the phrase "rules should allow adoption of technological improvements and alternatives" is to provide a degree of flexibility such that advances in the state of the art will not be stifled.. Therefore, the proposed regulations will not contain alternatives to the standards. Instead, the proposed regulations will establish the procedure by which technological improvements and alternatives can be accepted when they can be shown to provide equivalent pollution protection.

Question: 6

The Fact Sheet mentions that, in the process of reviewing the draft for the 1978 IMCO Conference on Standards of Watchkeeping and Training, the DOT "will identify all requirements which, if not included in the 1978 Convention, the U. S. should impose on crews of all ships entering U. S. ports." What will these requirements be, and how will unilateral enforcement of them then be carried out?

Answer:

The United States will participate in a joint IMCO/ILO Committee on Training in June 1977 to discuss the 1978 Draft Convention. Subsequent to that meeting it is planned to review the entire STW Draft with the Advisory Committee on Standards of Training and Watchkeeping to identify any requirement not included in the draft resulting from the STW Sub-Committee meetings or the joint IMCO/ILO Committee on Training meeting. Once these requirements are identified, their inclusion in the 1978 Convention as mandatory rather than recommendatory provisions will become an objective of the U. S. Delegation to the Conference. After the 1978 Conference, the Convention will be reviewed to determine what, if any, need may exist for unilateral imposition and enforcement of requirements beyond those in the Convention.

Question: 7 In what circumstances does the Coast Guard request the National Transportation Safety Board action in the investigation of a marine accident or casualty? How do the two agencies coordinate their activities?

Answer:

The U. S. Coast Guard and the National Transportation Safety Board both are required to investigate marine casualties. The Coast Guard's authority is contained in 46 USC 239 and the regulations promulgated thereunder, 46 CFR Part 4. The Independent Safety Board Act of 1974, 49 USC 1901 et. seq. gives the NTSB authority to conduct investigations of major marine casualties and casualties involving public and non public vessels to determine cause.

Currently major marine casualties and all others reported in accordance with 46 CFR 4.05-1 are investigated by the Coast Guard. A reppresentative of the NTSB attends the proceedings and participates in the investigation of major casualties. He has the authority to call and examine witnesses, introduce evidence, and make recommendations concerning the scope of the inquiry. A copy of the transcript of the proceedings, all evidentiary material and the Coast Guard report is furnished to the NTSB for their use in developing cause and preventive recommendations.

The two agencies coordinate their activities via formal and informal lines of communication. The agencies have developed proposed joint marine casualty investigation regulations which were published in the Federal Register, Vol. 41, No. 252, Thursday, December 30, 1976. All comments received before 1 March 1977 will be considered in developing the final regulations.

C. COAST GUARD RESPONSES TO QUESTIONS OF MARCH 31, 1977

Question 1:

> Is acceptance by the Inter-Governmental Maritime Consultative Organization (IMCO) a precondition for full implementation within five years by Coast Guard rulemaking of each of the five ship construction and equipment standards mentioned in the March 18, 1977, White House Fact Sheet "Actions to Reduce Maritime Oil Pollution"? Please answer yes or no; then elucidate.

Answer:

No. On May 16, 1977, the Coast Guard issued a series of Notices of Proposed Rulemaking dealing with each of the five ship construction and equipment categories outlined in the March 18, 1977, White House Fact Sheet. Final rulemaking will occur subsequent to a plenipotentiary conference on the subject which is now scheduled for February 1978. This will permit good faith negotiation at IMCO. The technical details of the rulemaking will in part reflect the standards which result from the conference. The international maritime community is aware that the United States is prepared to act unilaterally, if need be, to carry out the President's program.

Question: Number 2

Are there any Coast Guard studies or statistics showing that the rate of tanker casualties and pollution incidents increases with the age of the vessel?

Answer:

Casualties are required to be reported to the U. S. Coast Guard in accordance with the provisions of 46 CFR 4.05 whenever one of the following occurs:

a. Actual physical damage to property in excess of $1,500.00.

b. Material damage affecting the seaworthiness or efficiency of a vessel.

c. Stranding or grounding. (With or without damage.)

d. Loss of life.

e. Injury causing any persons to remain incapacitated for a period in excess of 72 hours; except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.

Casualty reports are received from U. S. flag vessels regardless of the location of the vessel at the time of the incident and by foreign flag vessels if the casualty occurred within United States territorial waters.

An evaluation of the reported marine casualties occurring aboard tank vessels would indicate that an accident frequency correlation exists with vessel age. During the first years of vessel operations, there is a disproportionate frequency of accidents, likely attributable to the break-in period, followed by one or two decades of relatively low accident frequency. As a vessel's age exceeds fifteen to twenty years, the relative accident frequency again increases. This increase is attributable to deterioration, material failure and other factors commensurate with a vessel's aging process.

There are no statistics to indicate that pollution incidents are related to the age of the vessel other than those that occur as a result of tanker casualties.

Question 3: How many tankers between 10,000 and 20,000 deadweight tons enter U.S. ports each year?

Answer: The Coast Guard information system for foreign tankers is just now being upgraded and we are attempting to gain this type of information as rapidly as possible. In the meanwhile, as a part of our foreign tanker examination program, we have found that of 919 tankers examined, 54 were in the category of between 10,000 and 20,000 deadweight tons. An extension of this experience would indicate that of 1600 different tankers that visit a U.S. port at least once per year, 94 would be of the size requested. These smaller vessels are for the most part either chemical or gas tankers which are already fitted with the equivalent of double bottom and other safety features which far exceed oil tanker safety standards. There are 78 chemical and gas tankers between 10,000 and 20,000 deadweight tons active in U.S. trade.

Question: 4 What percentage of oil pollution caused by tankers in U.S. waters occurs during transfer operations?

Answer: About 3.4 - 4.4 percent of the total oil pollution in U.S. waters occurs as a result of transfer operations, according to available 1973-75 data (i.e., onshore/offshore bulk and non-bulk cargo transfer, and onshore/offshore fueling).

Question: No. 5

> During the March 23, 1977, hearing, Rear Admiral Benkert, in response to a question on the public availability of Coast Guard information on tanker casualties, pollution incidents, and regulatory violations, stated that such public inquiries are made "...on a continuing basis right now." By whom, and how often are these inquiries made? Which Coast Guard information systems are used to provide responses?

Answer:

The United States Coast Guard has three information systems containing the specific information noted in the question. The Automated Casualty System contains a record of all marine casualties reported in accordance with 46 CFR 4.05 (for criteria see question #2) for the Fiscal Year period 1963 to 1976. The Pollution Incident Reporting System (PIRS) maintains a record of all pollution incidents investigated by the U. S. Coast Guard since 1972 while the Port Safety Reporting System (PSRS) contains the violation history of vessels and facilities that have been issued citations for having been found to be not in compliance with provisions of the Code of Federal Regulations.

During Fiscal Year 1976, there were over two hundred requests for casualty information that were answered by information generated from the automated casualty system. The requests spanned the entire spectrum of vessel and casualty types and are broken down with respect to source of inquiry as follows: 51% were for U. S. Coast Guard usage by either Headquarters or field units; 10% were provided to either government or state agencies; and approximately 38% were sent out to non-government requestors, be they private citizens, private organizations, research groups, universities, business firms, and the like.

The Pollution Incident Reporting System (PIRS) is the only comprehensive source of information on oil pollution incidents which occur in and around U. S. waters. Because of its uniqueness, there is a relatively high demand for information from this system. Governmental users include members of Congress, other federal agencies (primarily the EPA, MARAD, the USGS, and CEQ), and state governments. Private sector users of the data base are primarily consultants and contractors using the data for Environmental Impact Statement purposes, members of the academic community, and individual citizens. Many requests can be satisfied by providing published information, but an average of three requests per day can only be filled by special computer runs using programs written specifically for these requests.

Information from the Port Safety Reporting System (PSRS) is available to the public subject to the provisions of the Freedom of Information Act and the Privacy Act. Until recently there were no public inquiries made of PSRS, with the primary users being U. S. Coast Guard Captains of the Port. During the past three months, there have been several requests for information from non-government entities for that information which is releasable under the Freedom of Information Act.

Question: 6

Does the Coast Guard have, or is it planning to have, the capability of using the NIMBUS G satellite (or any comparable system) to detect oil spills and the tankers responsible for them, and to trace the movements and characteristics of "high risk" tankers?

Answer:

NIMBUS G is an experimental satellite which will be launched in October of 1978. As it is an experimental satellite, its data will not be available to a user community on a regular operational basis. The satellite's resolution is too large to distinguish vessels or to see any but very large oil spills. Additionally, time constraints on the use of the satellite's sensors and the availability of its processed data dictate that it cannot be used to detect or track suspected pollution violators or "high risk" tankers. In the event of a major coastal oil spill occurrence of sufficient magnitude, the Coast Guard plans to utilize the capabilities of NIMBUS G to track the spill's movement.

NIMBUS G has not been the only satellite system considered for marine environmental protection purposes by the Coast Guard. The primary reasons for lack of satellite data applications in pollution monitoring are the specific sensor's inadequate resolution and sensitivity, the infrequency of orbital coverage over the same geographical location, and the delay in obtaining information in a useful format.

Question: 7

Approximately how many times during the last five calendar years has the Coast Guard coordinated with the National Ocean Surveillance Information Center (NOSIC) to help track tankers responsible for "mystery spills"? How useful could the capabilities of NOSIC be in this task?

Answer:

In the past, NOSIC has been used only on a limited basis by the Coast Guard to track tankers responsible for mystery oil spills. NOSIC data was used in the fall of 1975 to track the GARBIS which caused a major oil spill along the Florida Keys the previous summer. The information alerted Coast Guard officials who watched the vessel return to U. S. waters where they were able to bring enforcement action against her. In this case, the identity of the vessel was known to the Coast Guard. In most "mystery spills" the identity of the offending vessel is not known and cannot be determined. Therefore, NOSIC capability to track vessels cannot be utilized.

Question 8:

What specific statutory and policy inhibitions, if any, prevent the Coast Guard's denying entry into all U.S. ports to a given tanker that has been found to be (a) in repeated violation of U.S. regulations, (b) responsible for several oil pollution incidents in U.S. waters or elsewhere, or (c) frequently involved in significant casualties?

Answer:

Certain statutes specifically authorize denial of entry under given circumstances. It is doubtful whether we have the authority to deny entry except pursuant to a specific statute. A vessel may be denied entry under 33 U.S.C. 1321(p) if it fails to provide adequate evidence of financial responsibility. Under the Tank Vessel Act, as amended, 46 U.S.C. 391a(13), a vessel may be denied entry if it is not "in compliance with the provisions of [the act] or the regulations promulgated thereunder." The regulations under the act do not presently address the three justifications for denial of entry suggested in question 8, but regulations on those topics could be developed under the Tank Vessel Act. There are also certain related actions which may be taken for reasons of national security under the authority of the Magnuson Act, 50 U.S.C. 191 et seq., and other remedies under Title I of the Ports and Waterways Safety Act of 1972, 33 U.S.C. 1221 et seq. These remedies are described in Parts 6 and 160 of Title 33, Code of Federal Regulations.

It is probably correct to say that under international law foreign vessels do not have a "right" of entry, except as to the right of foreign vessels to traverse the Great Lakes en route to Canadian ports (1909 boundary waters treaty, 36 Stat. 2448, 2449), and there are no specific inhibitions created by international agreements as to denial of entry, other than the provision commonly found in bilateral treaties of friendship, commerce and navigation ("FCN") to the effect that the United States shall treat vessels of the other party equally with vessels of the "most-favored nation." See, e.g., the FCN treaty with Liberia, 54 Stat. 1739, 1742. Thus the prohibition is against discriminatory treatment of vessels of certain nations as compared to the treatment accorded to vessels of other nations. One further qualification must be observed as regards the Panama Canal. Under the 1901 treaty with Great Britain the canal "shall be free and open to the vessels of commerce and of war of all nations ...on terms of entire equality, so that there shall be no discrimination against any such nation, or its citizens or subjects,..." 32 Stat. 1903, 1904. To the extent that access to the canal is equated with access to ports of the United States, care must be exercised to ensure non-descriminatory treatment of vessels of all nations.

Finally, a general policy inhibition may be considered to exist, in that other nations whose vessels are denied entry may choose to retaliate, either by according similar treatment to United States vessels, or by other and perhaps more extreme measures.

Question 9:

In cases where the actual Federal costs incurred in cleanup operations conducted under the authority of the Federal Water Pollution Control Act have exceeded the limits of liability set forth in section 311 of that Act, has the Coast Guard ever billed or collected from a responsible party an amount less than that provided for by section 311? In each such case, please explain the reasons for the decision.

Answer:

The Coast Guard's authority to settle claims of the Federal Government is limited to claims under $20,000 by the provisions of the Federal Claims Collection Act. (31 U.S.C. 952.) Virtually all of the cleanups which exceed the limits of the $100 per gross ton scheme set forth in §311(g), are in excess of $20,000. Accordingly, unless the discharger agrees to pay us the full costs or at least the limit set forth in §311(g), we cannot compromise such a claim. Instead, we must forward such cases to the Department of Justice. In general, the Department of Justice seeks the actual removal costs; however in some cases, because of the difficulty of proving the source of the discharge, and other evidentiary considerations as well as the potential for counterclaims against the United States, the Department of Justice may agree to accept a sum less than that originally billed by the Coast Guard.

Question: 10

Are Coast Guard inspectors required, whenever boarding foreign flag tankers, to examine the Certificate of Financial Responsibility to determine whether the vessel's name and the name of the owner/operator, as listed on the Certificate are still current? Does the inspector have on hand before boarding the name of the owner/operator?

Answer:

Coast Guard inspectors are required as part of the scope of the foreign tank vessel examination program to examine the Certificate of Financial Responsibility as well as all other required Certificates. The inspector insures that all Certificates are current and that the vessel and owner/operators name is the same on all Certificates. The inspector has no means of determining if the names of the owner/operator appearing on the certificates are in fact the present owner/operator of the vessel.

Question 11:

In the regulations (33 CFR 153.407), the Coast Guard sets forth the types of costs payable from the revolving fund. What actual costs are not chargeable to the fund?

Answer:

The regulations cited in your question have been interpreted in two Coast Guard directives: Commandant Instruction 7302.3A entitled, Use of Pollution Fund, dated 2 NOV 76 and Commandant Instruction 16465.2A entitled, Guidelines for the Use of Coast Guard Resources during Pollution Removal Operations, dated 4 NOV 76. Included are copies of each of these documents which set forth in detail actual costs which are not chargeable to the Fund. Generally speaking, these include Coast Guard personnel costs, depreciation, operating and maintenance costs, and an overhead factor of 25%. The rates for these charges are set forth in Enclosure 1 and 2 to Commandant Instruction 16465.2A. In addition Commandant Instruction 7302.3A, sets forth certain categories of "removal" costs which are not chargeable to the Fund. (See Commandant Instruction 7302.3A, paragraph 3d.) These include discovery, notification, and monitoring expenses which are considered normal operating expenses and are absorbed by the Coast Guard. This should be contrasted with control, recovery and disposal expenses which are generally charged to the Fund within the guidelines set forth in Commandant Instruction 16465.2A. In addition, restoration activities have been considered the responsibility and financial burden of appropriate government agencies, and as such, are also not chargeable to the Fund.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS
U.S. COAST GUARD (G-WEP-4/73)
400 SEVENTH STREET SW
WASHINGTON, D.C. 20590
PHONE 202-426-9568

COMDTINST 7302.3A

2 NOV 1976

COMMANDANT INSTRUCTION 7302.3A

Subj: Use of Pollution Fund

1. Purpose. The purpose of this instruction is to promulgate guidance on the use of the Pollution Fund for expenses incurred by Federal and state agencies in removal activities performed under Section 311 of the Federal Water Pollution Control Act FWPCA, as amended.

2. Cancellation. Commandant Instruction 7302.3 CH-1 is hereby cancelled.

3. Discussion.

a. Introduction. It is Coast Guard policy to ensure in an aggressive fashion that timely and effective action is taken to control and remove discharges of oil and hazardous substances into or upon U.S. waters, adjoining shorelines, or into or upon the waters of the contiguous zone. This policy derives from our understanding of the intent of Congress as expressed in Section 311 FWPCA and formalized by the provisions of the National Oil and Hazardous Substances Pollution Contingency Plan, that the Coast Guard remove or arrange for the removal of discharges of oil and hazardous substances in port and coastal waters as defined in the plan unless removal is being conducted properly by the party responsible for the discharge. When oil is discharged into the U.S. navigable waters, the party responsible for the discharge incurs an obligation to remove the discharged oil, within technological limitations, from the water and from wherever it should become deposited due to its movement in or on the water. If the party responsible is unknown or is not taking proper removal actions, then these obligations accrue to the Federal Government with the costs of removal chargeable to the Pollution Fund. Reimbursement for the expenditures from the fund is then sought from the party responsible for the discharge. To ensure a proper and effective use of the Pollution Fund, the following statutory and policy considerations require special emphasis:

(1) Determination of "Navigable Waters"

(2) State Reimbursement for Removal Costs

(3) Definition of Removal Actions

(4) Administration of the Fund

(5) "Arranging for" Removal

b. Determination of "Navigable Waters". Pursuant to Section 311(c), FWPCA, it is the Coast Guard policy to act to control and remove any oil or hazardous substance discharged "into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone." Section 502(7) of the FWPCA defines navigable waters as "the waters of the United States, including the territorial seas." The "waters of the U.S." includes not only the more traditionally recognized "navigable waters of the United States" but all streams, creeks, lakes, and ponds tributary thereto upstream to their various sources. Storm drains and similar artificially created systems whose discharges are not processed through treatment plants are "waters of the U.S." when they discharge into this tributary system. Lakes and ponds within the United States which are not part of this tributary system are "waters of the U.S." when the federal government may exercise any constitutionally authorized powers over them. The "waters of the U.S." also include seasonally dry watercourses when there is water standing or flowing in them. The mere existence of a channel or bed through which water could flow is insufficient without the actual presence of water or the potential presence of water in the near future due to such phenomena as tidal fluctuations or seasonal flooding. This view takes into account nearly all of the waterbodies that exist in this country, the presence of water being the essential ingredient sought by Congress to be the subject of regulation in the FWPCA. However, U.S. waters should not be construed as every puddle or depression containing or capable of containing water. While it might similarly be argued that Congress intended by the use of the term "adjoining shorelines" to reach pollutants discharged upon surfaces other than water, the term "adjoining shorelines" has no meaning unless read in conjunction with "navigable waters". Congress intended to establish removal authority for those discharges upon shorelines and banks adjoining navigable waters where an imminent threat exists of the discharge entering into or upon navigable water.

c. State Reimbursement from the Pollution Fund. Annex IX of the February 1975 revision of the National Oil and Hazardous Substances Pollution Contingency Plan outlines the procedure for allowing state conducted removal operations and subsequent state reimbursements for removal expenses from the Pollution Fund. State reimbursement for removal expenses will be considered only if a determination has been made by the Federal On-Scene Coordinator (OSC) that the actions of the party responsible for the discharge are not proper, in accordance with Section 311(c)(1), FWPCA. Without a 311(c)(1) determination by the Federal OSC during the incident and prior to initiation of state removal actions, a state cannot obtain reimbursement for costs incurred in state removal activities. In addition to determining that the discharger's actions are improper, the Federal OSC must determine that state removal actions are necessary, as defined by paragraph 1905.2 of the National Oil and Hazardous Substances Pollution Contingency Plan. State removal action is necessary when it can minimize or mitigate significant damage which Federal removal actions cannot, or when the cost which will be incurred by the state will not be significantly greater than that which would be incurred by Federal departments or agencies. Also, in accordance with paragraph 1906.2., the OSC must maintain control of removal operations adequate to certify that the activities of the state and the corresponding expenses incurred were authorized for reimbursement from the Pollution Fund. It must be emphasized that reimbursement is the single method of funding state removal actions. Only expenses prepaid from state funds may be considered for reimbursement from the pollution fund. This policy recognizes the responsibility of the OSC to determine the propriety of any removal actions undertaken by the party responsible for the discharge and allows the OSC to maintain effective control over removal activities in his geographic area of responsibility, in accordance with the provisions of the National Oil and Hazardous Substances Pollution Contingency Plan. The determination that state involvement in removal operations is necessary and that state expenses incurred are reasonable must be made in a timely manner on a case-by-case basis. Care must be exercised in a state removal operation to ensure that misunderstandings do not develop concerning reimbursement of funds expended for removal activities. Formal agreements among Federal and state departments and agencies reflecting all aspects of state and Federal cooperation in pollution removal activities are essential to a mutually effective and timely response program. These agreements should establish a clear understanding of the mechanisms governing state reimbursement from the Pollution Fund, including information on specific expenses chargeable to the Fund and recommended reporting and accounting procedures found in Volume 1, Section P of the Comptroller Manual, CG-264. Enclosure (1) provides a suggested form and minimum content for an agreement with appropriate state agencies. If such an agreement is not executed with a state, the terms and conditions of enclosure (1) shall apply to every contractual arrangement, written or oral, made with a state for pollution removal purposes. Procedures compatible with the forestated requirement, which enhance coordinated Federal and state response activities, should also be included in the Regional Contingency Plan.

d. Removal activities chargeable to the Fund. The types of activities that should be performed and charged to the Fund in response to a discharge have been subject to varying interpretation. Basically, discovery, notification, and monitoring expenses are considered the operating expenses of the Coast Guard. Control, recovery, and disposal expenses are chargeable to the Pollution Fund. Restoration activities are the responsibility and financial burden of the appropriate government agencies. Difficulty has been encountered in the determination of (1) the Coast Guard's obligation to perform certain response activities and (2) the extent to which these activities represent necessary removal activities as opposed to restoration activities not chargeable to the fund. The FWPCA definition of removal includes "the taking of such actions as may be necessary to minimize or mitigate damage to the public health or welfare, including but not limited to fish, shellfish, wildlife, and public and private property, shorelines and beaches." The Coast Guard policy, based on this definition, includes as part of the removal operation any activities required to repair unavoidable damages resulting from necessary removal actions. This includes the replacement of any beach sands which have been removed, and the replanting of any shoreline vegetation damaged by the removal operations. However, if the damage to the vegetation or beach is a result of the pollution only, the replacement of these resources is a restoration activity. The cleaning of boat hulls and the cleaning of pilings are also considered removal operations.

These are activities which minimize and mitigate damage to public and private property resulting from the discharge and are activities which prevent further leaching or emitting of pollution into the water. It is possible to remove oil from the hulls of boats without recreating a discharge in the surrounding water. Repainting boat hulls is not required if, after cleaning, they are found to be stained or corroded from the contact with the pollution. Here again, repair of damage caused by the pollution is a restoration and not a removal operation. If the damage is caused during removal, any actions to correct the damage should be financed from the fund. It is emphasized that the purpose of this discussion is not to establish any mandatory actions that disregard the circumstances of the incident, but rather to set the limits to which the OSC may exercise his discretion. This policy allows the OSC to take agressive and forthright actions necessary in his judgement, to remove the discharge from the water or adjoining shoreline and at the same time, allows him the flexibility of determining that some unusual response measure is or is not required in the specified case concerned. The virtually infinite variety of circumstances requires that the final judgement as to appropriateness of any given removal action rests with the OSC and prohibits the establishment of categorically mandatory policies, either affirmative or negative. The decision rests with the OSC. If he determines that a certain action is necessary to effect proper removal, it is proper to charge the expenses of that action against the Pollution Fund. The effective implementation of this policy demands that the OSC initiate a vigorous effort to document the particulars of the incident to ensure sufficient detail to evaluate requests or claims. The OSC must also maintain a close coordination with the appropriate contracting officer, the only official who may obligate government funds.

e. Administration of the Fund. The limit of Coast Guard responsibility to administer the Pollution Fund, particularly with respect to EPA exercising its delegated authority under Sections 311(c) and 311(d), FWPCA requires clarification and delineation. The authority delegated to the Coast Guard to administer the fund established under Section 311(k),FWPCA is essentially fiscal in nature and involves ensuring that the Fund is not misused by negligent or fraudulent fiscal management such as improper contracting, overcharging, and the like. However, this authority cannot be extended to the operational decisions made pursuant to the authorities of Sections 311(c) and (d) since they are not fiscal in nature. The officials charged with exercising the authorities of Sections 311(c) and (d) have full authority to make these decisions without consulting, much less obtaining the concurrence of the officials charged with administering the Fund pursuant to Section 311(k). It is possible that the procedures of the Comptroller Manual that provide for direct charging to the Fund and assigning of a project number have contributed to a more extensive interpretation of the authorities of Section 311(k). It should be clearly understood that the assigning of a project number is merely a means to identify transactions to appropriate incidents, not obligating authority. And further, when the Coast Guard extends contracting support to EPA through the direct charging procedure care must be exercised that the Coast Guard does not become involved in the operational decisions. The procedures relating to the administration of the Fund adequately provide for the official exercising the Section 311(c) and (d) authorities to establish jurisdiction and to certify to the appropriateness of actions taken.

f. "Arranging for" removal. Consistent with the provisions of Section 311(c), FWPCA and the National Oil and Hazardous Substances Pollution Contingency Plan and the policy delineated in paragraph 3.a. above it is common practice to encourage the party responsible for a discharge to take appropriate actions to remove the discharge. In some incidents suspects for the discharge were encouraged to and did in fact take action before positive identification was made and the investigation later proved that the suspects were not responsible for the discharge. These alleged polluters then desired to be compensated for their actions from the Pollution Fund. However, because the OSC had not exercised the authority of Section 311(c) and the removal actions did not meet the provisions of Section 311(j), payment from the Pollution Fund could not be made. It is imperative that OSC's understand their authority under Section 311(c) to "remove or arrange for the removal" of a discharge and that they clearly distinguish when they are exercising this authority as opposed to providing advice to the responsible party. In order for payment to be made from the Pollution Fund under the circumstances described above the facts of the incident must clearly indicate that the OSC was aware that, even orally, he was arranging for removal and that the alleged polluter would not have taken removal actions in the absence of these arrangements. Voluntary removal activity absent these arrangements does not qualify for payment from the Pollution Fund. When the identity of the polluter is in doubt, the OSC should exercise his Section 311(c) authority.

g. Enclosure (2) outlines the steps involved in a Federal response to a pollution discharge. This diagram summarizes the above discussion and highlights the key decision points and paths.

4. Action. District Commanders shall:

a. Ensure that the "navigable waters" determination required to establish jurisdiction for Section 311 of the Federal Water Pollution Control Act is made in a timely manner within the guidelines outlined in paragraph 3.b. above.

b. Ensure that proper contingency planning has been conducted and formal agreements established with appropriate state agencies to enable state participation in Federally initiated removal actions and reimbursement to the states for this participation. This planning and agreements should reflect the discussion of paragraph 3.c. above and include as a minimum the provisions of enclosure (1).

c. Ensure that OSC's predesignated by the Coast Guard and Coast Guardsmen who are first on-scene and initially assume the duties of the OSC aggressively pursue timely and effective removal action for all oil and hazardous substance discharges into or upon the U.S. navigable waters, adjoining shorelines, or into or upon the waters of the contiguous zone. The extent of these removal actions shall be governed by the guidelines outlined in paragraph 3.d. above and should include all actions necessary, in the judgement of the OSC, to minimize or mitigate damage to the public health or welfare, including but not limited to fish, shellfish, wildlife, and public and private property. Removal also includes the repair of unavoidable damages resulting from actions to control, recover or dispose of the discharge.

d. Ensure that the Pollution Fund is administered properly with respect to fiscal matters and that this administration, as a matter of policy, does not question the operational decisions of those officials delegated authority under Sections 311(c) and (d), FWPCA.

e. Ensure that OSC's designated by the Coast Guard properly exercise the Section 311(c) authority to "remove or arrange for the removal" of a discharge, particularly when there is doubt as to the identity of the polluter or an alleged polluter denies responsibility, making clear when he is arranging for removal and when he is giving advice in accordance with the guidelines of paragraph 3.f. above.

Encl: (1) Suggested Agreement with States
(2) Diagram of Pollution Fund Utilization Process

Dist: (SDL No. 103)
A: None
B: n(50); e(25); c(20); f(15); gh(11); r(10); b(3); j(2); pq(1)
C: egmo(3)
D: b(5); d(2)
E: mno(3)
F: None
EPA, Washington, (25)

AGREEMENT BETWEEN THE UNITED STATES AND THE
STATE OF __________ CONCERNING REIMBURSEMENT
FROM THE FEDERAL POLLUTION FUND

WHEREAS, the State of ________________, through its ______________ (Name of lead State agency) and the U.S. Coast Guard through its __________ Coast Guard District have a mutual interest in protecting the environment from the damaging effects of pollution discharged into the navigable waters of the United States and the adjoining shorelines within their mutual jurisdictions; and

WHEREAS, the U.S. Coast Guard is authorized by the Federal Water Pollution Control Act as Amended in 1972 (P.L. 92-500), hereinafter called the "Act," and the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. 1510), hereinafter called the "National Contingency Plan," to reimburse state agencies from the Federal Pollution Fund under certain circumstances in which the appropriate Federal On-Scene-Coordinator determines that such action is necessary; and

WHEREAS, the State of _____________, through its __________________ ______________________________ and other political subdivisions and state instrumentalities, is authorized by state statute and local ordinances to pursue vigorous action to abate, contain, and recover pollutants discharged into its waters; and

WHEREAS, the ____ is the agency of the State of ___________________ authorized pursuant to 40 C.F.R. 1510.23(a) to supervise the cleanup of pollution by state and local agencies and to be the sole agency to submit requests for reimbursement for all state agencies, political subdivisions and instrumentalities; and

WHEREAS, the ____ and the _____________ Coast Guard District desire to establish uniform procedures for the authorization, documentation, certification, and reimbursement from the Federal Pollution Fund of Phase III (Containment) and Phase IV (Cleanup, Removal and Disposal) expenses incurred by the ___________________________________ or other state agencies, instrumentalities, and political subdivisions under its supervision and control, and which are authorized to be paid by the Act, the National Contingency Plan and appropriate implementing regulations;

NOW THEREFORE, the ____ (hereinafter referred to as "________________________"), ______________ Coast Guard District (hereinafter referred to as "Coast Guard") agree as follows:

(1) The Federal On-Scene-Coordinator, designated in accordance

with the National Contingency Plan (hereinafter called the "OSC") is the person solely responsible for coordinating federal pollution control efforts and the only person who may authorize activities which are reimbursable from the Pollution Fund.

(2) This agreement is not intended to limit to those situations in which reimbursement from the Pollution Fund is permissible, the activities of ______________________________, other state agencies, instrumentalities, and political subdivisions in carrying out the mandate of statutorily approved programs. It is anticipated that exercise of state authority may be appropriate in circumstances in which federal action is not deemed necessary by the OSC. Activities of ______________________________ and state agencies, instrumentalities, and political subdivisions may include expenditure of funds which under other circumstances would be reimbursable, or it may include such expenditures as restoration expenses which are beyond the purview of the Act.

(3) The OSC may request of the designated representative of ______________________________ what, if any, equipment, personnel or materials of ______________________________, other state agencies, instrumentalities, or political subdivisions is available for use hereunder. The designated representative of ______________________________ shall inform the OSC what items, if any, are available, and to what extent, if any, ______________________________ desires to assume a portion of the responsibility for Phase III or IV action in a particular spill, and the estimated cost of such action.

(4) Upon determination by the OSC that the following conditions are met, he may authorize ______________________________ to proceed with certain work to contain, cleanup, and remove oil or hazardous substances deposited upon the navigable waters of the United States or on adjacent shorelines or beaches:

(a) That the party causing the discharge is unknown, or

(b) That the party responsible for the discharge has been notified, if possible, of the liability for the costs of federal removal in accordance with Sections 311(f) or (g) of the Act; the need to perform the removal in accordance with existing federal and state statutes and regulations, including the National Contingency Plan; the name and status of the OSC; and

(c) That despite these efforts by the OSC or other officials, the discharger does not act promptly to remove the discharge; and

(d) That state action is required to minimize or mitigate significant damage to the public health or welfare which federal action cannot mitigate or minimize, or

(e) Removal or partial removal can be affected by the state at a cost which is not significantly greater than the cost which would be incurred if the cleanup were conducted by the Federal departments or agencies.

(5) If the OSC determines that the conditions of paragraph (4) have been met and that State action is necessary, he may then authorize the designated representative of ________________ to proceed with the performance of appropriate services. This notice to proceed may be limited in any fashion and may be terminated at any time by the OSC, in whole or in part by notice to the designated representative.

(6) All labor and equipment offered by the designated representative of ____________________ and authorized by the OSC shall be performed using the employees and equipment of ____________________, other state agencies, instrumentalities and political subdivisions. Except as specifically authorized in accordance with paragraph (8), no work is authorized to be performed hereunder by private contractors. All authorized work shall be supervised by the designated representative of ______________________. Work authorized hereunder, whether rendered by __________________________, other state agencies, instrumentalities, or political subdivisions, shall be paid for by state or local appropriations and shall be considered, for the purpose of this agreement, as work rendered by ______________________. If the service of private contractors is deemed necessary by the designated representative of ____________________, he may notify the OSC of the need. It is expected that the OSC, if he concurs, normally will independently obtain the services of concerns under contract to the United States, or obtain necessary contracts through his Contracting Officer.

(7) _________________________ shall be reimbursed for the following costs incurred hereunder and paid for by state or local appropriations upon the submission of a report, supported by accounting date, itemizing the actual costs incurred via the OSC to Commander, ____________________ Coast Guard District:

(a) Costs found to be reasonable by the Coast Guard incurred by government industrial type facilities, including charges for overhead in accordance with the agency's industrial accounting system.

(b) Actual costs for which an agency is required or authorized by any law to obtain full reimbursement.

(c) Costs found to be reasonable by the Coast Guard incurred as a result of removal activity that are not ordinarily funded by an agency's regular appropriations and that are not incurred during normal operations. These costs include, but are not limited to, the following:

(i) Travel (transportation and per diem) specifically requested of the agency by the On-Scene-Coordinator.

(ii) Overtime for civilian personnel specifically requested of the agency by the On-Scene-Coordinator.

(iii) Incremental operating costs for vessels, aircraft, vehicles, and equipment incurred in connection with the removal activity.

(iv) Supplies, materials, and equipment procured for the specific removal activity and fully expended during the removal activity.

(v) Lease or rental of equipment for the specific removal activity.

(vi) Contract costs for the specific removal activity authorized in accordance with paragraph (8).

(vii) Salaries of state employees shall not normally be reimbursed.

(8) SUBCONTRACTS

(a) No subcontract shall be made by ____________________________ for the furnishing of any of the work herein contracted for without the prior approval of the OSC. For the purpose of this clause, purchase of raw material or commercial stock items shall not be considered work.

(b) No subcontract placed under this agreement by _______________ ______________ shall provide for payment on a cost-plus-percentage-of-cost basis.

(9) All individual request for services hereunder shall be by order of the OSC. Oral orders will be confirmed in writing. __________________ _________________ shall issue daily work orders to its labor force. _______ _________________ shall prepare daily, in a form acceptable to Commander, _________________ Coast Guard District (f), a complete listing of personnel, equipment and material provided hereunder, the inclusive times of their employment, together with the cost, if known, or an accurate estimate thereof if actual cost is not yet determinable. The listing shall be sufficiently itemized to permit the OSC to maintain an accurate estimate of each type of costs as it accrues, and to identify each item of work for which actual cost will be included in the final billing. For minor incidents the OSC may require less frequent reports at intervals not less than three days. Each daily report should also include an estimate of the percent of the work completed, an estimate of expense necessary to complete the requested operation, and remarks concerning any unusual problems encountered or expected.

(10) Hourly charges under paragraph (7) shall commence with the time personnel and equipment depart for the location of the spill. Charges will terminate at the conclusion of necessary cleanup and necessary transportation of the personnel and equipment to their respective bases of operation. or in the case of a notice of termination of authorization to proceed on certain work, issued by the OSC, after the time which would have been required for necessary cleanup and return had the work been terminated at the time of the notice.

(11) If it is deemed in the best public interest, the United States reserves the right to request cleanup services simultaneously from competitive firms and will expect harmonious cooperation between one or more contractors on the same or adjacent areas. The apportionment of services will be solely within the discretion of the OSC and no guarantee of volume of services requested during the period of this agreement is intended or implied.

(12) Services provided hereunder by ______________________________ will be in accordance with the following General Provisions.

(a) OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

(b) COVENANT AGAINST CONTINGENT FEES

______________________ warrants that no person or selling agency has been employed or retained to solicit or secure this agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by ______________________________ for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this agreement without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

(c) RELATIONSHIP OF PARTIES

The parties of this contract act in an independent capacity in the performance of their respective functions under this contract and neither party is to be considered the officer, agent or employee of the other.

(Note: Any other General Provisions may be added or deemed appropriate by the parties to the agreement.)

(13) This agreement shall go into force thirty (30) days after signing by both parties to the agreement.

UNITED STATES OF AMERICA
UNITED STATES COAST GUARD

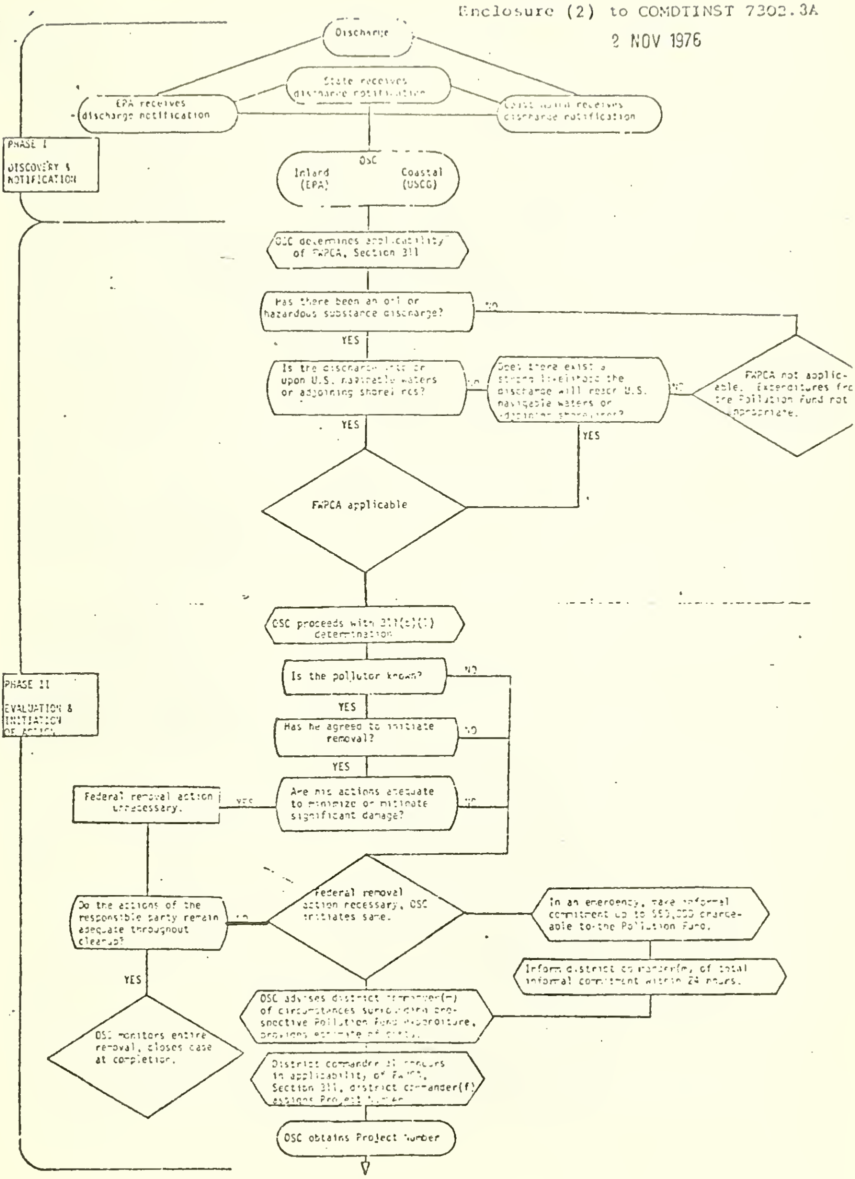
______________________ By ______________________
(date) (Name and Title of person authorized to Sign)

STATE OF ______________________
____

______________________ By ______________________
(date) ______________________
(Name and Title of Person authorized to Sign)

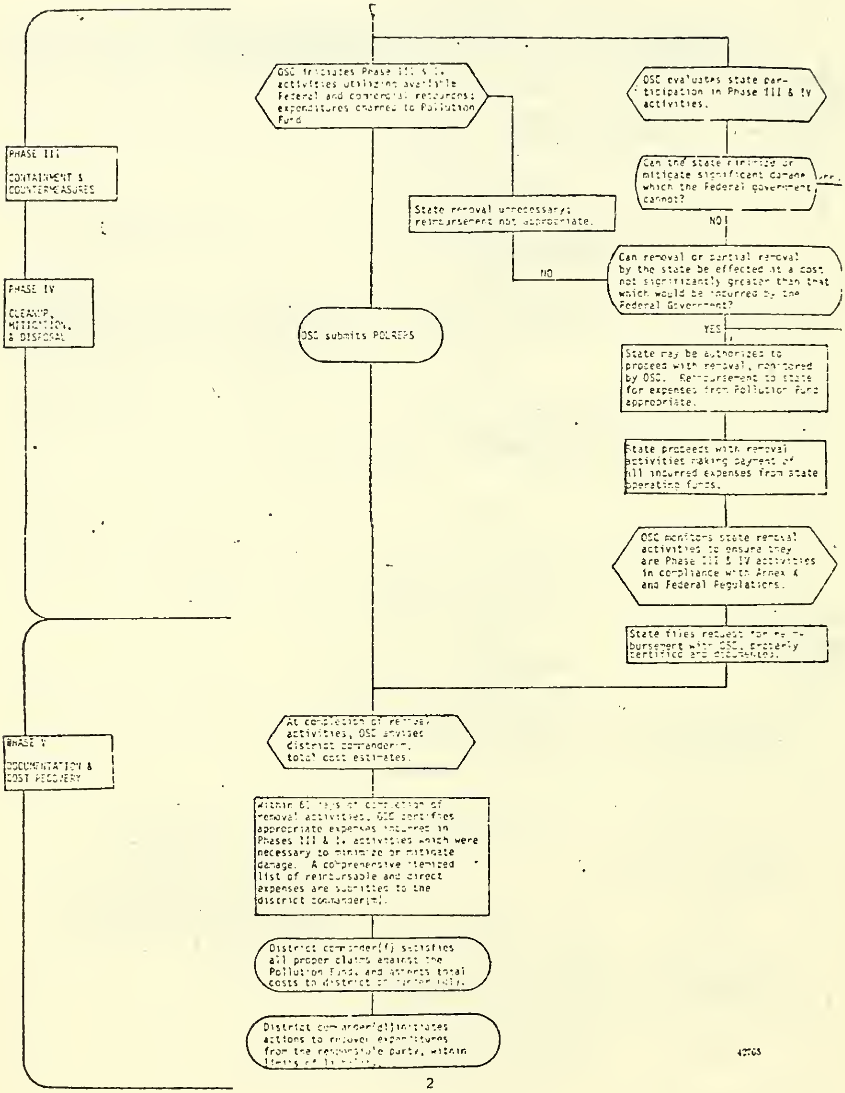
Enclosure (2) to COMDTINST 7302.3A

2 NOV 1976


Discharge
State receives discharge notification
EPA receives discharge notification
Coast Guard receives discharge notification
PHASE I
DISCOVERY & NOTIFICATION
OSC
Inland (EPA)
Coastal (USCG)
OSC determines applicability of FWPCA, Section 311
Has there been an oil or hazardous substance discharge?
NO
YES
Is the discharge into or upon U.S. navigable waters or adjoining shorelines?
NO
Does there exist a strong likelihood the discharge will reach U.S. navigable waters or adjoining shorelines?
NO
FWPCA not applicable. Expenditures from the Pollution Fund not appropriate.
YES
YES
FWPCA applicable
OSC proceeds with 311(c)(1) determination
Is the pollutor known?
NO
YES
Has he agreed to initiate removal?
NO
YES
PHASE II
EVALUATION & INITIATION OF ACTION
Federal removal action unnecessary.
YES
Are his actions adequate to minimize or mitigate significant damage?
NO
Do the actions of the responsible party remain adequate throughout cleanup?
NO
Federal removal action necessary, OSC initiates same.
In an emergency, make informal commitment up to $50,000 chargeable to the Pollution Fund.
Inform district commander(m) of total informal commitment within 24 hours.
YES
OSC monitors entire removal, closes case at completion.
OSC advises district commander(m) of circumstances surrounding prospective Pollution Fund expenditure, provides estimate of costs.
District commander (l) concurs in applicability of FWPCA, Section 311, district commander(f) assigns Project Number
OSC obtains Project Number

Enclosure (2) to COMDTINST 7302.1

2 NOV 1976


PHASE III
CONTAINMENT & COUNTERMEASURES
PHASE IV
CLEANUP, MITIGATION, & DISPOSAL
PHASE V
DOCUMENTATION & COST RECOVERY
OSC initiates Phase III & IV activities utilizing available Federal and commercial resources; expenditures charged to Pollution Fund
OSC evaluates state participation in Phase III & IV activities.
Can the state minimize or mitigate significant damage which the Federal government cannot?
YES
NO
State removal unnecessary; reimbursement not appropriate.
NO
Can removal or partial removal by the state be effected at a cost not significantly greater than that which would be incurred by the Federal Government?
YES
OSC submits POLREPS
State may be authorized to proceed with removal, monitored by OSC. Reimbursement to state for expenses from Pollution Fund appropriate.
State proceeds with removal activities making payment of all incurred expenses from state operating funds.
OSC monitors state removal activities to ensure they are Phase III & IV activities in compliance with Annex X and Federal Regulations.
State files request for reimbursement with OSC, properly certified and documented.
At completion of removal activities, OSC advises district commander(m), total cost estimates.
Within 60 days of completion of removal activities, OSC certifies appropriate expenses incurred in Phases III & IV activities which were necessary to minimize or mitigate damage. A comprehensive itemized list of reimbursable and direct expenses are submitted to the district commander(m).
District commander(f) satisfies all proper claims against the Pollution Fund, and reports total costs to district commander (dl).
District commander(dl) initiates actions to recover expenditures from the responsible party, within limits of liability.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS
U S COAST GUARD (G-WEP-4/73)
400 SEVENTH STREET SW.
WASHINGTON. D C 20590
PHONE 202-426-9568

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COMDTINST 16465.2A

4 NOV 1976

COMMANDANT INSTRUCTION 16465.2A

Subj: Guidelines for the Use of Coast Guard Resources during Pollution Removal Operations

Ref : (a) Federal Water Pollution Control Act, as amended
(b) National Oil and Hazardous Substances Pollution Contingency Plan
(c) 33 CFR 153
(d) USCG Comptroller Manual, Volume One, Chapter 01 - Section P
(e) Commandant Instruction 5922.16 series

1. Purpose. This instruction promulgates guidance for the use of Coast Guard resources in pollution removal activities, for charging costs to the Pollution Fund for their use, and promulgates the rates from which to compute these costs.

2. Cancellation. Commandant Instruction 16465.2 is hereby cancelled.

3. Discussion.

a. It is Coast Guard policy to ensure that timely and effective action is taken to control and remove all discharges of oil and hazardous substances into or upon U.S. waters, adjoining shorelines, or into or upon the waters of the Continguous Zone. This policy derives from our understanding of the intent of Congress, as expressed in Section 311 of reference (a) and formalized by the provisions of reference (b), that the Coast Guard remove or arrange for the removal of discharges of oil or hazardous substances in port and coastal waters as defined in reference (a) unless such removal is being conducted properly by the party responsible for the discharge or if such removal will cause greater environmental damage than the discharge alone.

b. The Coast Guard as a designated Primary Agency has purchased pollution control equipment as a part of the overall Federal Government effort in response to the provisions of reference (b), particularly those implementing Sections 311(c)(2)(B) and (C) of reference (a) concerning the availability of adêquate pollution control equipment and material. For maximum flexibility this equipment has been distributed to the National Strike Force, Coast Guard units at major ports and units in areas with limited commercial resources. Additionally, Coast Guard units have come into custody of pollution control equipment as the result of Federally funded pollution removal operations.

c. Consideration should be given to the use of Coast Guard-owned pollution control equipment and other related resources in the following situations:

(1) In accordance with Section 1510.22(m) of reference (b) Coast Guard pollution control equipment is available for use to remove discharges from vessels or facilities owned or operated by the Coast Guard. Coast Guard resources are also available to other Federal agencies for the removal of discharges from their vessels or facilities on a cost-reimbursable basis. Since Section 153.407(c) of reference (c) denies the use of the Pollution Fund to pay the agency costs of removal of pollution from their vessel or facilities, these costs must be paid from the agency operating funds. Consistent with the guidance of Sections 1901.5, 1906.1 and 1907.2 of Annex IX to reference (b) agreements concerning reimbursement shall be negotiated prior to or at the time when Coast Guard equipment is made available to other government agencies.

(2) If the party responsible for the discharge is not known, the On-Scene Coordinator (OSC) should immediately initiate actions to control the spread of the discharge. If, after a reasonable time, the discharger cannot be identified, these control efforts should be augmented with actions to recover and dispose of the pollutant. When assuming responsibility for removal activities, the OSC should consider deployment of Coast Guard pollution control equipment when it will be more effective than other locally available equipment, or when it can be deployed more quickly than other locally available equipment. The costs for Federal removal activities are chargeable to the Pollution Fund in accordance with the provisions of references (c) and (d).

(3) When the party responsible for the discharge is known, the OSC should encourage the discharger to use his own resources or those of a local cooperative, or commercial contractors to effect timely and proper actions for the removal of all visible traces of the pollutant. When the OSC determines, using the guidelines of reference (e) that the polluter is taking proper removal actions as defined by Section 311(a)(8) of reference (a), Sections 1510.42(c) and 1510.53(a)(3) of reference (b) and Subpart C of reference (c) using all readily available non-government resources, but that available Coast Guard pollution removal equipment would significantly enhance the removal operation, then this equipment may be made available to the polluter or to co-operatives or contractors engaged by the polluter. The party responsible for the discharge shall be informed of his obligation to reimburse the Pollution Fund for all Coast Guard costs. The costs incurred by the Coast Guard when so providing pollution control equipment are reimbursable to Coast Guard Operating Expense appropriations from the Pollution Fund per the procedures in reference (d), including the following out-of-pocket expenses:

(a) Travel and per diem of the OSC and personnel required to deploy and maintain requested Coast Guard pollution removal equipment.

(b) Operational costs for the removal equipment and necessary support equipment.

(c) Refurbishment, repair, and replacement costs of removal equipment and support equipment.

(4) When the party responsible for the discharge is willing to conduct removal activities, but resources other than those owned by the Coast Guard are not immediately available, Coast Guard resources should be made available to the polluter consistent with the provisions of 3.c.(3) above. Upon arrival of cooperative or commercial equipment, consideration should be given to the withdrawal of Coast Guard equipment unless the continued use will enhance the removal of the discharge.

4. Action.

a. District Commanders shall ensure that appropriate arrangements for reimbursement of actual expenses, consistent with internal procedures of the Coast Guard and the requesting Federal agency, are made prior to or at the time when Coast Guard owned equipment is made available to other government agencies in accordance with paragraph 3.c.(1) above.

b. OSC's predesignated by the Coast Guard shall:

(1) aggressively pursue proper removal of all oil and hazardous substance discharges into the navigable waters of the U.S. as defined by reference (a), and shall utilize Coast Guard resources whenever and wherever appropriate in accordance with the guidance of paragraph 3.c above.

(2) encourage the parties responsible for pollution discharges to initiate immediate and effective actions for the removal of the discharge through their own resources, or through a cooperative or commercial contractor, and shall make available Coast Guard owned pollution removal equipment if he determines that this equipment will significantly enhance the removal of the pollution discharge. The OSC shall ensure that the polluter, cooperative or commercial contractor is aware of the costs and the party's liability for reimbursing the Pollution Fund for any requested services and equipment needed for removal efforts.

(3) ensure that the use of Coast Guard owned equipment does not interfere with the use of cooperative or commercial resources. Continuous and exclusive use of Coast Guard owned equipment shall be carefully considered in accordance with the guidance of paragraph 3.c above.

c. The costs for the use of Coast Guard pollution removal equipment, support equipment and out-of-pocket expenses shall be documented and charged to the Pollution Fund for billing to the responsible party as specified below.

(1) The operating Expense appropriation shall be reimbursed for the costs using the standard rates for pollution removal equipment listed in enclosure (1) and for Coast Guard support personnel and equipment listed in enclosure (1).

(a) For barriers, use a "life" of 30 days and charge for the actual days used, but not to exceed the actual costs for the equipment. The estimated refurbishment costs of enclosure (1) are given only as an average cost guideline and the user shall be charged the total cost, which will be variable, depending upon use and location. Include the cost of transportation; add an additional 25% of the total cost of refurbishment, related transportation and labor, and administrative costs; then add capital depreciation.

(b) For the transfer Pumping System and recovery equipment (skimmers), the same costing procedures as 4.c.(1)(a) shall be followed computing charges on hourly usage, rather than on a daily basis.

(c) Pay and allowances for personnel involved and capital depreciation will not be charged to the Pollution Fund but will be billed to the responsible parties for credit to the Fund - not to the OE appropriation.

(2) The documentation of costs for the use of Coast Guard pollution removal equipment shall provide a complete and detailed breakdown of cost computations using all the appropriate rates of enclosures (1) and (2).

(3) Monies reimbursed to Operating Expense appropriations shall be reallocated to the participating units for all out-of-pocket costs and equipment refurbishment.

Acting Chief, Office of Marine
Environment and Systems

Encls: (1) Standard Rates for Oil Pollution Equipment
(2) Standard Rates for Personnel, Cutters, Small Boats, Aircraft and Vehicles

Dist: (SDL No. 103)

A: None
B: cefgnr(5); bh(3); jp(1)
C: abcgmo(5)
D: bd(5)
E: no(5)
F: None
EPA Washington, D.C. (25)

STANDARD RATES FOR OIL REMOVAL EQUIPMENT

U.S.C.G. Owned Barriers	Refurbishment Cost Per Incident	Fixed Capital Depreciation Cost Per Incident (based on 30 day lifetime)
High Sea State Containment Barrier	Average cost for cleaning, repair and labor, but not including transportation, overhead or operational man-hours = $17/ft (See Note 1)	$5.85/ft/day up to 30 days or $175.00/ft to replace destroyed barrier
High Sea State Skimming Barrier	Subject to negotiation	To be developed
Mid-range containment barrier owned by Coast Guard including but not limited to the cold weather type barrier	Average cost for cleaning, repair and labor, but not including transportation, overhead or operational man-hours = $3.50/ft (See Note 1)	$1.17/ft/day up to 30 days or $35.00/ft to replace destroyed barrier
Semi-protected water containment barrier owned by Coast Guard including but not limited to Kepner Sea Curtain and T - T type oil barrier	Same as above = $1.50/ft (See Note 1)	$0.50/ft/day up to 30 days or $15.00/ft to replace destroyed barrier

STANDARD RATES FOR OIL REMOVAL EQUIPMENT

U.S.C.G. Owned Transfer Pumping Systems and Recovery Equipment (skimmers)	Refurbishment Cost Per Incident	Fixed Capital Depreciation Cost Per Incident
ADAPT Pumping Subsystem	$2,100.00/100 hrs or less up to 300 hrs or greater, but not including transportation, overhead or operational man-hours. (See Note 2)	$2.23/hr or $65,000.00 to replace
Portable Oil Retrieval and Storage System (PORTS)	$100.00/10 hrs or less of use up to 200 hrs or greater, but not including transportion, overhead or operational man-hours. (See Note 2)	$0.25/hr or $10,000.00 to replace
Oil Mop Belt Type Recovery System	$250.00/10 hrs or less of use up to 100 hrs or greater, but not including transportion, overhead or operational man-hours. (See Note 2)	$0.62/hr or $25,000.00 to replace
Portable Disc-Drum Oil Skimmer (Type 110)	$150,00/10 hrs or less of use up to 100 hrs or greater, but not including transportation, overhead or operational man-hours. (See Note 2)	$0.51/hr or $15,000.00 to replace

STANDARD RATES FOR OIL REMOVAL EQUIPMENT

U.S.C.G. Owned Transfer Pumping Systems and Recovery Equipment (skimmers)	Refurbishment Cost Per Incident	Fixed Capital Depreciation Cost Per Incident
Arctic Boat Skimmer Disc-Drum R 2003)	$800.00/10 hrs or less of use up to 200 hrs or greater, but not including transportation, overhead or operational man-hours. (See Note 2)	$4.45/hr or $160.000.00 to replace
High Sea Oil Recovery System (Disc-Drum)	$1200.00/10 hrs or less of use up to 500 hrs or greater, but not including transportation, overhead or operational man-hours. (See Note 2)	$ 205.47/hr

STANDARD RATES FOR OIL REMOVAL EQUIPMENT

Other U.S.C.G. Owned Oil Pollution Removal Equipment	Refurbishment Cost Per Incident	Fixed Capital Depreciation Cost Per Incident
Fast Surface Delivery System	Subject to negotiation	To be developed
Hazardous Substances Protective Clothing	Subject to negotiation	To be developed
Sorbent Materials	Actual cost of material + 25% overhead and transportation	

Note 1 : Compute cost for use of Coast Guard owned barriers as follows: Refurbishment cost + transportation cost from enclosure (2) including vehicle transport and cutter or small boat used to deploy and tend the barrier + personnel cost from enclosure (2) and per diem if required beyond personnel cost from enclosure (2) and per diem if required beyond personnel cost computed in transportation + 25% of this subtotal for overhead, then add capital depreciation.

Note 2 : Compute cost for use of Coast Guard owned pumping systems and skimmers as follows: Refurbishment cost + transportation cost from enclosure (2) including vehicle transport and cutter or small boats used to deploy or tend equipment + personnel cost from enclosure (2) and per diem for operating personnel + 25% of this subtotal for overhead, then add capital depreciation.

Enclosure (2) to COMDTINST 16465.2A
4 NOV 1976

STANDARD RATES

1. The rates listed in this enclosure are to be used whenever claims are prepared for the recovery of the costs of operating Coast Guard cutters, aircraft, small boats, or owned and/or leased vehicles in pollution incidents. Exceptions are permissible and encouraged, with respect to fuel costs. For example, if accurate records are maintained for fuel consumed during the periods for which costs are recoverable, the actual consumption and price should be used to determine the true costs of fuel.

2. The charges are to be based on actual operations, and will include personnel costs. Additional claims are to be made for: (1) any maintenance required due to extraordinary use or abuse, providing such usage was necessary to accomplish a mission, based upon the actual costs of the additional materials and labor; (2) incidental personnel expenses such as, but not limited to, travel and per diem.

Enclosure (2) to COMDTINST 16465.2A
4 NOV 1976

3. STANDARD RATES FOR CUTTERS.

Cutter Class/Type	Personnel	Fuel	Other	Depreciation
WHEC 378	$580.99/hr.	$91/hr.	$173/hr.	$53/hr.
WHEC 327	533.51/hr.	84/hr.	146/hr.	10/hr.
WMEC 230	305.39/hr.	24/hr.	119/hr.	12/hr.
WMEC 213	270.64/hr.	32/hr.	143/hr.	10/hr.
WMEC 210	236.44/hr.	27/hr.	80/hr.	18/hr.
WMEC 205	270.64/hr.	27/hr.	187/hr.	19/hr.
WMEC 143	171.17/hr.	15/hr.	62/hr.	5/hr.
WPB 95	51.47/hr.	13/hr.	84/hr.	2/hr.
WPB 82	27.36/hr.	9/hr.	48/hr.	2/hr.
WAGB-POLAR	584.25/hr.	125/hr.	366/hr.	26/hr.
WAGB-INLAND	519.25/hr.	87/hr.	390/hr.	26/hr.
WLB	191.05/hr.	15/hr.	119/hr.	6/hr.
WLM	112.13/hr.	14/hr.	68/hr.	4/hr.
WLI	43.88/hr.	6/hr.	42/hr.	2/hr.
WLR	47.88/hr.	10/hr.	33/hr.	1/hr.
WLIC	34.20/hr.	5/hr.	27/hr.	1/hr.
WYTM	71.24/hr.	16/hr.	96/hr.	4/hr.
WYTL	17.10/hr.	4/hr.	24/hr.	1/hr.

NOTE: Personnel rates are based on an eight-hour workday. Therefore, for claims covering more than eight hours of continuous use, personnel costs will be charged for only the first eight hours of use in each consecutive twenty-four hour period. The charges for fuel and other costs are to be applied for every hour of use, or major fraction thereof. The total charge is to be determined by obtaining a sub-total using columns 1, 2, and 3, increasing the sub-total by 25% to compensate for overhead expenses, and then adding a charge for depreciation in accordance with column 4.

4. STANDARD RATES FOR SMALL BOATS.

Boat Type	Personnel	Fuel	Other	Depreciation	Boats Included Within Type
MLB-52	$16.42/hr.	$3.23/hr.	$58.71/hr.	$1.14/hr.	52' MLB
MLB-44	11.88/hr.	2.41/hr.	29.71/hr.	.88/hr.	44' MLB
MLB-36	8.37/hr.	.95/hr.	20.00/hr.	.24/hr.	36' MLB
UTB	10.13/hr.	2.74/hr.	24.83/hr.	.31/hr.	40' UTB, 42' UTB
UTM	8.37/hr.	1.64/hr.	18.18/hr.	.29/hr.	30' UTM
UTL	6.17/hr.	1.14/hr.	11.05/hr.	.06/hr.	15', 16', 17' UTL
MRB	12.43/hr.	.57/hr.	9.81/hr.	.29/hr.	22' MRB, 25' MSB MKIII, Short Version
MCB/ML	6.98/hr.	.80/hr.	17.44/hr.	.03/hr.	24', 25', 26' MCB; 25', 26', 27' ML; Motor Whaleboat; all boats not listed, 24' to 36'
MCBL/MLC	5.83/hr.	.54/hr.	21.45/hr.	02/hr.	20' MCBL; 20' ML; 20' MLC; all boats not listed, less than 24'
TICWAN	8.37/hr.	2.00/hr.	11.61/hr.	.07/hr.	19', 21' TICWAN
BU	11.23/hr.	2.00/hr.	16.20/hr.	.59/hr.	40', 43', 45', 46', 50', 60' BU
ICWAB	11.88/hr.	2.40/hr.	19.05/hr.	1.29/hr.	53' ICWAB
LCVP	9.60/hr.	2.65/hr.	33.49/hr.	.08/hr.	35', 36' LCVP
LCM/CB	11.42/hr.	2.69/hr.	30.34/hr.	.09/hr.	50', 56', 64' LCM 53; crewboat; all boats not listed, above 36'
LARC*	6.17/hr.	1.99/hr.	39.82/hr.	.36/hr	35' LARC
PSB	8.37/hr.	1.88/hr.	11.52/hr.	.42/hr.	31' PSB

Enclosure (2) to COMDTINST 16465.2A

4 NOV 1976

Boat Type	Personnel	Fuel	Other	Depreciation	Boats Included Within Type
SKIFF	3.37/hr.	1.44/hr.	.41/hr.	.02/hr.	All SKB, SKM, SKL
ANB	13.15/hr.	1.53/hr.	36.41/hr.	4.55/hr.	55' ANB
TANB	9.60/hr.	1.53/hr.	21.52/hr.	.77/hr.	21' TANB

* In addition to the hourly rates, add a one-time charge of $9.60 to recover the cost of labor involved in required post-use maintenance.

NOTE: The total charge is to be determined by obtaining a sub-total using columns 1, 2, and 3, increasing the sub-total by 25% to compensate for overhead expenses, and then adding a charge for depreciation in accordance with column 4.

5. STANDARD RATES FOR AIRCRAFT

Aircraft Type	Personnel	Fuel	Other	Depreciation
HC-130B	$130.52/hr.	$287.21/hr.	$664/hr.	$13/hr.
HC-130H	130.52/hr.	287.21/hr.	314/hr.	13/hr.
EC-130E	130.52/hr.	287.21/hr.	234/hr.	13/hr.
HU-16E	67.82/hr.	43.70/hr.	378/hr.	3/hr.
HH-3F	81.31/hr.	65.65/hr.	574/hr.	9/hr.
HH-52A	49.60/hr.	23.13/hr.	286/hr.	3/hr.

NOTE: The total charge is to be determined by obtaining a sub-total using columns 1, 2, and 3, increasing the sub-total by 25% to compensate for overhead expenses, and then adding a charge for depreciation in accordance with column 4.

6. STANDARD RATES FOR VEHICLES.

Charge for vehicles including commercial, GSA, and USCG-owned will include the costs listed on Charge List for Vehicles, which is attached.

Enclosure (2) to COMDTINST 16465.2A

4 NOV 1975

CHARGE LIST FOR VEHICLES

Charges are marked by (X)

Source of Vehicle Used	(1) Actual Cost of Rent for Vehicles	(2) All Actual Operating and Maintenance Cost	(3) Actual Personnel Cost "A"	(4) Travel and Per Diem	(5) Overhead & Administration Expenses 25% of 1, 2, 3, & 4	(6) Depreciation "B"
Commercial Rental	X	X	X	X	X	
GSA Leased "C"	X		X	X	X	
USCG-owned		X	X	X	X	X

NOTE: "A", "B", and "C", see attached.

NOTE "A": Personnel costs include: base pay, subsistence, BAQ, enlisted clothing maintenance, and government contribution to social security.

Add all of these costs together and divide by 2,920 hours (365 days X 8 hours) for an hourly rate. Charges are made for each hour or major fraction thereof for the first eight hours of a 24-hour period. If the actual personnel costs cannot be determined, use standard personnel rates from paragraph 7.

NOTE "B": Depreciation is calculated as follows:

1. Take the acquisition cost of the vehicle.
2. Divide this cost by the estimated number of years the vehicle was expected to last on its purchase date.
3. Divide the figure from (2) by 8,760 hours (365 days X 24 hours) for the hourly rate.
4. Multiply the hourly rate by the number of hours the vehicle was used.

NOTE "C": For this type, use GSA lease rates as published.

7. STANDARD RATES FOR PERSONNEL

STANDARD MILITARY COMPENSATION RATE

GRADE	RANK	HOURLY	DAILY	WEEKLY	MONTHLY	YEARLY
06	Captain	$15.60	$124.80	$624.00	$2,703.04	$32,460.00
05	Commander	12.80	102.40	512.00	2,219.52	26,634.00
04	Lieutenant Commander	10.75	86.00	430.00	1,864.05	22,369.00
03	Lieutenant	9.35	74.80	374.00	1,621.29	19,455.00
02	Lieutenant Junior Grade	7.35	58.80	294.00	1,274.49	15,294.00
01	Ensign	5.65	45.20	226.00	979.71	11,756.00
W4	Warrant Officers	10.45	83.60	418.00	1,812.03	21,744.00
W3		8.85	70.80	354.00	1,534.59	18,415.00
W2		7.55	60.40	302.00	1,309.17	15,710.00
E9	Enlisted Members	8.75	70.00	350.00	1,517.25	18,207.00
E8		7.65	61.20	306.00	1,326.51	15,918.00
E7		6.55	52.40	262.00	1,135.77	13,629.00
E6		5.65	45.20	226.00	979.71	11,756.00
E5		4.75	38.00	190.00	823.65	9,884.00
E4		3.85	30.80	154.00	667.59	8,011.00
E3		3.70	29.60	148.00	641.58	7,699.00
E2		3.45	27.60	138.00	598.23	7,179.00
E1		3.10	24.80	124.00	537.54	6,450.00

NOTE:

1. Compensation Rate includes Base Pay, BAS, BAQ, Clothing Maintenance, FICA and SGLI

2. These rates are reproduced from USCG Comptroller Manual, 1E01006. Changes to the Comptroller Manual shall supercede these rates.

3. Effective date 1 October 1975

Question 12:

Can the Coast Guard estimate how much of the actual cost incurred pursuant to the statute represents overhead or fixed costs?

Answer:

The Coast Guard has calculated the "overhead or fixed costs" for use in the recovery of actual costs of removal under the FWPCA. The rate of 25% has been established in the Table of Standard rates for cutters, small boats and aircraft which is published as Enclosure 2 to Commandant Instruction 16465.2A. In addition the Coast Guard has calculated for each type of vessel and aircraft a rate per hour for on going operating and maintenance support and costs. These are set forth in Enclosure 2 for each vessel and aircraft under the category of "Other". A copy of Commandant's Instruction 16465.2A is attached to the response to Question 11.

Question 13:

> If NASA were requested by an On-Scene Coordinator to use aircraft to make an overflight to monitor an area impacted by oil pollution, and that flight cost $5-10,000 in fuel over and above the fixed costs of maintaining that aircraft and crew for general purposes, would this cost be chargeable to the fund?

Answer:

This question asks whether the costs of fuel for a NASA overflight which was requested by the On-Scene Coordinator would be an actual cost which is chargeable to the Fund. In accordance with the enclosed directives, it is our opinion that this charge for fuel would be a reasonable and proper charge against the Fund.

D. JANUARY 31, 1977, COAST GUARD REGULATIONS

federal register

MONDAY, JANUARY 31, 1977

PART XII

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

DEPARTMENT OF TRANSPORTATION

Coast Guard

■

NAVIGATION SAFETY AND VESSEL INSPECTION REGULATIONS

Title 33—Navigation and Navigable Waters

CHAPTER I—COAST GUARD, DEPARTMENT OF TRANSPORTATION

[CGD 74-77]

PART 164—NAVIGATION SAFETY REGULATIONS

Navigation Procedures, Testing, and Equipment Requirements

The purpose of these amendments to Title 33 of the Code of Federal Regulations is to add a new Part 164 prescribing rules for navigation procedures, preliminary tests, and minimum equipment for vessels of 1600 gross tons or more when operating on the navigable waters of the United States, except the Panama Canal and St. Lawrence Seaway.

On page 18766 of the FEDERAL REGISTER of May 6, 1976, the Coast Guard published a notice of proposed rulemaking for these amendments. Operation of vessels that are as large as 1600 gross tons or more within coastal and harbor regions, where 80 percent of vessel casualties occur, regularly creates hazardous conditions with risks to persons, property, and the environment, especially if proper navigation procedures are not followed, essential vessel equipment is not operating properly, or a vessel does not have necessary equipment. As discussed in the preamble of the proposal, most vessels follow proper procedures, have the necessary equipment, and keep that equipment operating properly. It is those vessels that do not follow proper procedures or do not have properly operating, necessary equipment that aggravate the hazard. The hazard is compounded not only by the recrurring problems of reduced visibility, adverse weather, and vessel congestion, but by the increasing speed and size of vessels, especially when carrying hazardous cargoes or other cargoes that can adversely affect the environment. The number of vessels involved in reported collisions, rammings, and groundings is increasing. Vessel casualties, such as those involving the *Torrey Canyon*, the *Tamano*, the *Oregon Standard*, and certain of those that have occurred in December of 1976 and January of 1977, might not have occurred if proper navigation procedures had been followed or if the vessels had had properly operating essential equipment. The purpose of these amendments is to prevent future casualties by requiring, for those larger vessels, that proper navigation procedures are followed, that necessary equipment is on board, and that all essential equipment is operating when those vessels are navigating in the coastal waters and harbors of the United States.

The public was invited to comment in writing on the proposed rules from May 6, 1976, through August 6, 1976, and at public hearings in Washington, D.C. on June 11, 1976, and in San Francisco, California on June 17, 1976. A discussion of comments received and changes in the proposed rules follows.

General comments: Fifteen commenters suggested that more and better training, not regulation, is needed. More and better training is desirable and the Coast Guard is considering many ways to help improve it; however, that training would not preclude the need for the proper navigational procedures and vessel equipment that these amendments address. Furthermore, these rules do apply to the large number of foreign flag vessels operating within our navigable waters, while licensing and certification requirements, including training, promulgated by the Coast Guard now do not. Five commenters recommended increasing the difficulty of license exams or establishing a higher license, such as the United Kingdom's "Extra Master". The Coast Guard is considering these recommendations for possible future action.

Ten commenters stated that the proposal includes nothing that is not already addressed in statute or regulation. The rules in this new part require navigation procedures that are not included in the statutory "rules of the road." The rules also require equipment for all U.S. and foreign vessels of 1600 gross tons or more that is not required under statute or other regulations for all those vessels and under all the operating conditions to which this part applies. Some of the proposed rules, such as those for lights, day signals, and fog signals, were duplicative and have not been included in these final rules.

One commenter stated that the proposed operating procedures would restrict a master's use of good judgment. The operating procedures in these amendments are safe operating procedures that most masters follow. If these rules are restrictive, the restriction applies to those few masters who in the past have not followed these minimally safe practices.

As one commenter observed, most vessels that operate exclusively upon rivers will not be affected by these rules because they are smaller than 1600 gross tons.

One commenter suggested that the Coast Guard should require, instead of the rules in this part, that shipping companies issue an operating manual. Although an operating manual consistent with these rules might be desirable, a rule requiring it could be applicable only to U.S. companies and would not be as comprehensive as these amendments, especially the equipment requirements, nor have the force of regulations.

Several commenters stated that some of the rules were vague. Some of the rules do not include detailed standards because all of the practical variables are not quantifiable. Those rules that could be more detailed have been changed, such as a detailed description of the maneuvering information that is required under paragraph (g) of § 164.35, paragraph (f) of the proposal.

Section 164.01 Applicability. Nine commenters requested a definition of "navigable waters of the United States." "Navigable waters of the United States" is defined in 33 CFR 2.05-25.

Applicability to tug and barge combinations that have large aggregate tonnages was suggested by seven commenters, to tugs and towing vessels by five commenters, to all vessels by one commenter, and to small passenger vessels by one commenter. These regulations are not appropriate for all of the vessels in each of those classifications. The Coast Guard is considering regulations for these vessels that would be the subject of separate rulemaking actions.

Section 164.11 Navigation underway: general. Ten commenters stated that the proposed operating procedures would create a heavy workload that would require additional manning. Changes in this section, which are discussed later in this preamble, should eliminate the need for any unnecessary manning in addition to that normally required upon vessels to which these rules apply.

Two commenters suggested that the rules be published as a code of navigational practices and not as mandatory regulations. As stated at the beginning of this preamble, the navigation procedures in these rules are followed by most masters. The Coast Guard is making them mandatory, instead of publishing a voluntary code, to reach those who now do not follow good navigation procedures.

One commenter stated that the regulation requires the master or person in charge to be guarantor of compliance and that he could not always, in his capacity, ensure compliance. The Coast Guard agrees that this would be especially true for equipment requirements. Therefore, the final rule is changed to include the "owner" of the vessel as an ensurer of compliance. Although this change is included in these amendments, any interested person may submit written comments on this particular change to the Commandant (G-CMC/81), U.S. Coast Guard, Washington, D.C. 20590. Each person submitting a comment should include his name, address, identify the notice (CGD 74-77), and give reasons in support of his comments. The Coast Guard will consider comments received before May 2, 1977 and may change the requirement in light of them. Copies of the comments received will be available for examination in Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C.

Section 164.11(a). Six commenters requested a definition of "adequate number" of persons required to constantly man the wheelhouse to direct and control the movement of the vessel and fix the vessel's position. The intent of the paragraph is that the wheelhouse be "constantly manned" and that those functions be performed. Because of the variety of vessels to which this part applies, quantitative definition of "adequate number" is not practical. Therefore, to avoid confusion, the phrase "adequate number" is deleted.

Section 164.11(b). This paragraph requires the owner, master, or person in charge to ensure that persons performing the duties required under paragraph (a) be competent. Six commenters stated that the Coast Guard is responsible for ensuring competency through licensing and certification. "Competent" means more than qualified through licensing and certification. It also means physical and mental capacity to do the job at the time the person assumes the duty.

Section 164.11(c) in the proposal. This paragraph would have required the vessel's position to be fixed every 15 minutes. After further consideration, the Coast Guard has determined that this would not be practicable in all navigable waters. Therefore, it is not included in this final rule.

Section 164.11(c). This was paragraph (d) of the proposal which would have required the plotting of the vessel's position at each fix and the revised track on a chart of the area and that the person directing the movement of the vessel is informed of the vessel's position. Ten commenters stated that compliance would not be possible at present manning levels. Ten more commenters stated that the requirement is superfluous on rivers and in channels. Four others said this plotting would distract watch officers who are performing other duties. It is necessary for safety that the appropriate vessel's officers be aware of the vessel's position to supplement the functioning of a pilot; however, the Coast Guard has determined that the plotting of the track is unnecessarily burdensome in consideration of practical manning levels and the necessities of other duties. Therefore, the track plotting requirement is not included in the final rule.

Section 164.11(d). This was paragraph (e) in the proposal. This paragraph does not require specific navigation equipment, but requires the use of the electronic and other navigational equipment that is on a vessel plus geographic reference points and hydrographic contours for fixing positions. It should be read with the next paragraph which prohibits sole reliance on buoys.

Section 164.11(e). This was paragraph (f) in the proposal. Eight commenters suggested that buoys should be used to fix a position if no other aids are available. Buoys may be used to establish an estimated position if no other aids are available; however, they cannot be relied upon to establish a fix. Four commenters suggested that the Coast Guard spend more money on buoy maintenance. Three more stated that several buoys could be used to establish a fix. As stated in the note to this paragraph (e), strong currents, heavy seas, ice, and collisions with vessels can move, sink, or set adrift a buoy. "Spending more money" would not solve these problems. It is also not likely under these circumstances that several buoys could be used to establish a fix, but could only be used to establish an estimated position. The charted position of a buoy is approximate.

Section 164.11(g) *in the proposal.* This proposed requirement, to maintain a proper lookout, is included in the Federal "rules of the road", which are applicable to all vessels. Since it is therefore redundant, it is not included in the final rule.

Section 164.11(f). This was paragraph (h) in the proposal. Four commenters stated that the requirement to evaluate each closing radar contact conflicts with the radar Annex to the International Regulations for Preventing Collisions at Sea, 1960. That Annex cautions against reliance solely upon "scanty information" such as radar contacts and states what actions should be taken under certain circumstances. Paragraph (f) of these rules requires that each closing radar contact be evaluated, but does not require sole reliance upon radar and does not suggest what action should be taken once a contact is evaluated. One commenter stated that the rule was "pointless" in rivers and channels. The rule does not require plotting of course, speed, and closest point of approach of closing visual or radar contacts, which might not be effective in rivers and channels. The rule does require that the person directing the vessel's movement be aware of the actions of those contacts and the evaluation of how they may affect the navigation of that person's vessel.

Section 164.11 (g) and (h). These were paragraph (i) and (j) in the proposal. These rules require that rudder, engine speed, and direction orders be executed as given. One commenter stated that these rules would not prevent errors. Another commenter suggested that the requirement should be that the person directing the vessel's movement have a "positive indication" of proper execution. The intent of the rule is that the person directing the vessel's movement does what is necessary to ensure that these orders are being executed correctly, such as watching the direction the helmsman turns the wheel, the rudder angle indicator, and the engine order telegraph, so that person can respond immediately to correct any error being made. Some "positive indications," such as the movement of the vessel's head or change in vessel speed or engine vibrations, may not occur in time for correction of an error, especially on "very large" vessels.

One commenter suggested that the engine speed and direction orders be given using terms such as "ahead one-third" instead of terms such as "slow ahead," because there is less chance that the orders would be heard incorrectly. Application to foreign vessels to which this part applies of a rule requiring the use of this specific terminology would not be practicable.

Section 164.11(i). This was paragraph (k) in the proposal. One commenter stated the requirement that magnetic variation and deviation be known and correctly applied was "ridiculous" because the deviation changes can be so frequent. A survey of 300 randomly selected vessels showed that the deviation tables on many of these vessels were so out of date that the tables were of little use. The intent of this requirement is that a person directing the movement of a vessel be aware of the vessel's deviation. If that person has reasonably up to date tables or acts to verify deviation, such as by gyrocompass or celestial comparison, the requirement of this paragraph would be met and the safe navigation of the vessel enhanced.

Section 164.11(j). This was paragraph (l) in the proposal which would have required a qualified person to be at the steering position at all times. Six commenters stated that requiring the person to be at the steering position when a vessel was on automatic pilot was unreasonable. In light of this comment, the final rule requires only that the person be in the wheelhouse at all times. "Qualified person" has been changed to "competent" for the same reasons discussed earlier in this preamble for paragraph (a) of this section.

Section 164.11(k). This was paragraph (m) in the proposal. This paragraph requires a master and pilot conference to familiarize the pilot with the vessel because, although a pilot may be familiar with the type of vessel, each vessel has its own characteristics that often change with draft, trim, and speed. Furthermore, the pilot may not be familiar with the bridge layout and equipment and it would be too late to learn these things when risk of collision exists. Two commenters thought that the requirement was too vague. The paragraph is a clear expression of the intent of the requirement as just discussed. Further detail would be impractical because of the great variety of vessels to which this part applies. Three commenters asked about possible language barrier problems. If the pilot is unable to communicate somehow with the master, the Captain of the Port should be contacted under § 164.53 of this new part.

Paragraph (m)(2) in the proposal, which would have required the pilot to inform the master of abnormal characteristics of the area, is not included in this final rule. It may be the subject of a separate rulemaking at another time.

Section 164.11(l). This was paragraph (n) in the proposal. This paragraph requires the person directing the movement of the vessel to know the current velocity and direction for the area. One commenter stated that river current predictions are often inaccurate. The intent of the paragraph is that the person directing the movement of the vessel know as much about current velocity and direction as is possible.

Section 164.11(m). This was paragraph (o) in the proposal. One commenter stated that the predicted set and drift are unpredictable upon rivers. The intent of this paragraph is that the person directing the movement of the vessel use whatever data on current that is available to predict set and drift.

Section 164.11(n). This was paragraph (p) in the proposal. The words "tidal value" are replaced by "tidal state," as used in tide tables, to clarify the intent of the paragraph.

Section 164.11(q) in the proposal. This was to be a requirement for minimum net bottom clearance. It is not included in this final rule, but is to be the subject of a future rulemaking action.

Section 164.11(o). This was paragraph (r) in the proposal. It requires that the vessel's anchors be ready for letting go. Seven commenters suggested that application of the rule be limited to waters that are shallow enough for anchor use. Trying to narrowly define areas where the rule should apply would be impractical.

The intent of the rule is that the anchor be ready for use if necessary, such as when a vessel sheers suddenly into an area where it may ground. Nor should the rule be limited to confined or congested waters, as three commenters suggested, for the same reason. Six persons asked what "ready for letting go" means. "Ready for letting go" means that stoppers, covers, jackasses, and similar items are removed from the ground tackle and that the chain be rigged for quick release. It does not mean that the anchor should be walked out.

Section 164.11 (s) and (t) in the proposal. These proposed requirements were for the proper display of lights and day signals and the sounding of proper fog signals. These are included under the Federal "rules of the road," which are applicable to all vessels, and are therefore not included in this final rule.

Section 164.11(p). This was paragraph (u) in the proposal. Five commenters suggested that the Coast Guard coordinate this rule for setting a vessel's speed with the new Rule 6 of the International Regulations for Preventing Collisions at Sea, 1972. The Coast Guard has done so and the rules are consistent. Since Rule 6 applies to international waters, it is supplemented by this paragraph (p), which is more appropriate for the coastal and inland waters to which it applies.

Section 164.11(q). This was paragraph (v) in the proposal. The proposed paragraph, in part, required that the results of the tests required under § 164.25 be recorded in the vessel's "pilot house log." Two commenters suggested that the entry be in the "deck log." The intent of the rule is simply that the results be recorded in an official log of the vessel. To avoid confusion, the words "pilot house" are not included in the final rule.

Section 164.11(r). This was paragraph (w) in the proposal. This paragraph is the requirement that equipment required by this new part be maintained in operable condition. Four commenters suggested a "best effort" criterion. Two others stated that compliance is not always possible because of lack of parts and available technical ability. One commenter stated that radar, gyro, or depth finder malfunction should not be a reason to delay departure from a port where there are inadequate repair facilities. Notwithstanding these considerations, the intent of the rule is that this necessary equipment should be operating.

Section 164.15 Navigation underway: confined or congested waters and *Section 164.16 List of confined or congested waters.* These are special rules for the hazards of navigation in confined or congested waters. The substantive rules in § 164.15 are promulgated in this final rule as discussed in this preamble. The practical application of § 164.15, however, will not occur until specific geographic areas in which they would apply are included under § 164.16. The definition of "confined or congested waters," as requested by nine commenters, would be implicit in the naming of those waters. Those waters would be particularly hazardous because of restricted maneuvering room or a high volume of vessel traffic. The Coast Guard will conduct separate rulemaking actions for the listing of specific waters under § 164.16. A discussion of the rules in § 164.15 follows.

Section 164.15(a). The proposed rule stated that propulsion machinery is to be in the "maneuvering mode". One commenter requested a definition of "manuevering mode." To clarify the intent of the requirement, the final rule requires propulsion machinery to be ready to "respond immediately through its full operating range."

Section 164.15(b). This paragraph requires that the engine room be manned to operate the propulsion machinery as required under paragraph (a) of the section. Four commenters suggested that vessels that are designed for "unmanned" engine rooms be exempted. The intent of the paragraph is to require no more manning than is necessary to meet paragraph (a) of this section. "Engine room" also includes the main engine control station, even if it is not physically in the "engine room."

Section 164.15(c). This paragraph requires the availability of persons to anchor the vessel rapidly in an emergency. One commenter suggested that vessels with remote control of anchors be exempted. If there is remote control of anchors, the requirement is met by having persons at the remote control.

Section 164.15 (d) and (e) *in the proposal.* Paragraph (d) would have required the manning of the steering engine room to shift steering control from the pilot house to the steering engine room. Seventeen commenters stated that the requirement would be ineffective because a steering casualty cannot be so remedied quickly enough. In light of these comments, the requirement is not included in these final rules but will be considered further. Because of this, paragraph (e) of the proposal, which would have required communication between the pilot house and the person manning the steering engine room, is also deleted.

Section 164.15(d). This was paragraph (f) in the proposal. This paragraph prohibits the use of the automatic pilot device in confined or congested waters. Two commenters stated that automatic pilot is better than manual steering in certain situations. One suggested that the requirement be for use of the safest steering mode for a particular situation. One commenter stated that component failure in an auto pilot often causes a sudden sheer and that in confined or congested waters, there may be no time to shift. Furthermore, he stated that many companies have standing orders to use hand steering in "tight quarters." The last commenter's statements are consistent with the intent of the rule and the concept of the confined or congested waters in which it would apply. The paragraph is included in this final rule.

Section 164.17 of the proposal. The proposal stated that a rule for tug assistance in confined waters would be developed. This is to be the subject of a future rulemaking action.

Section 164.19 Requirements for vessels at anchor. To be chronologically consistent, paragraphs (a) and (b) of the proposal are interchanged in this final rule.

Section 164.19(a). This was paragraph (b) in the proposal. This paragraph requires the maintenance of a proper anchor watch. The proposed wording was "lookout". "Anchor watch" replaces it in this final rule in agreement with a comment, which stated that "anchor watch" was more appropriate.

Section 164.19(c). This paragraph combines paragraphs (c) and (d) in the notice. One commenter stated that veering chain or dropping a second anchor may solve the problem and that if repairs are being made to the vessel at anchor, it may not be able to get underway. Depending upon the severity of conditions, veering chain or dropping a second anchor may solve an anchor dragging problem; however, if conditions warrant, the vessel should be ready for getting underway if the other actions do not solve the problem. If the vessel has no propulsion, standby tug assistance may be appropriate.

Section 164.19 (e) and *(f) in the proposal.* These paragraphs would have required the display of proper light and day signals and sounding fog signals while at anchor. Since these are already required under the Federal "rules of the road", which are applicable to all vessels, they are not included in this final rule.

Section 164.23 in the proposal. This section would have required notification to the Captain of the Port or the Vessel Traffic Service of an area before getting underway under conditions that may abnormally affect vessel movement. There were 27 comments about the impracticality of this requirement. After consideration of these comments, the Coast Guard has determined that the practical value of this requirement is outweighed by its impractical aspects and it is not included in this final rule.

Section 164.25 Tests before entering or getting underway. Five commenters stated that the equipment tests required by this section are normal practice on "well-run" vessels and one commenter stated that the requirements are already included in parts of 46 CFR. The intent of the section is that these tests also be made on all those vessels to which this new part applies and not just the vessels to which the requirements in 46 CFR apply. 46 CFR is being amended to be consistent with this new rule. One commenter stated that compliance with this requirement is "impossible" for short inland or coastal voyages. These tests are as necessary for vessels of 1,600 or more gross tons that make short inland or coastal voyages, such as between Philadelphia and Baltimore, as they are for vessels that make longer voyages. If this seems impractical for a particular vessel, the Captain of the Port should be contacted under the requirements of § 164.55 of this new part.

Section 164.25(a). This paragraph requires the testing of primary and secondary steering gear. One commenter stated that careful inspection by a chief engineer or other qualified person would be sufficient. Visual inspection does not always disclose whether the system will fail and is less reliable than actual testing. One commenter suggested that testing a "trick wheel" is not practical while a vessel is underway. If this system is the only backup steering system, the test is necessary. Vessels to which this new part applies usually have at least two means of steering. To enhance safe navigation, both should be tested to ensure that they are operable.

Section 164.25(b). This paragraph requires the testing of internal vessel control communications and vessel control alarms. One commenter suggested that this apply only when necessary for safe maneuvering. These systems should be ready for all circumstances, including the unforeseen, for the purposes of safe navigation. One commenter stated that "all" of these systems on a highly automated vessel is a large number. Nevertheless, it is necessary for the purposes of safe navigation that these systems operate properly.

Section 164.25(c). The proposed paragraph (c) required the testing of "each emergency generator for at least fifteen minutes." Four commenters stated that once a week is sufficient. These are critical systems and whether or not they are working should be known at the time of actual vessel operation. Since the intent of the section is that there be a second working electrical power source, the final rule allows a standby or emergency generator. One commenter correctly suggested that, instead of a fifteen minute requirement, the test be as long as necessary to show proper functioning, including steady state temperature and pressure readings. The final wording has been changed accordingly.

Section 164.25(d). One commenter suggested that this requirement for the testing of storage batteries for emergency lighting and power systems to vessel control and propulsion machinery spaces not apply to vessels for which there is a regular testing program. The necessity of testing these critical systems at the time of entering or getting underway in the navigable waters of the United States is as discussed for the systems required under paragraphs (a) through (c) of this section.

Section 164.25(e). This paragraph requires the testing of main propulsion machinery, ahead and astern. Five commenters stated that backing engines in coastal waters might be dangerous. The Coast Guard assumes that reasonable masters would not do this test where it might be dangerous, such as in close proximity to other vessels. Two commenters suggested that the machinery be required to be tested only as is necessary to show that it can respond. That would meet the paragraph's requirement. One commenter suggested that the backing test of the engines be made when the vessel slows to pick up a pilot. This machinery must be tested, both ahead and astern, before entering the navigable waters of the United States, which is consistent with the intent of all the regulations in this new part as discussed in the beginning of this preamble.

Section 164 30 Charts, publications, and equipment: general. This section prohibits the operation of a vessel by any person unless the vessel has the charts, publications, and equipment as required by §§ 164.33 through 164.37 of this new part. Six commenters suggested a "due diligence" criterion for this requirement. That concept is reasonably included under the charts and publication requirements in § 164.33 as this section is rewritten in this final rule.

Section 164 33 Charts and publications. Seven commenters stated that the requirement to have the "most recently published" charts under paragraph (a) (1) is unreasonable under the present distribution system. Three commenters stated the same for the requirement under paragraph (a)(2) to have the "current" copy of the listed publications. Accordingly, the requirements are changed to require the "most recently published and available" charts and the "most recent, available * * *" copy of the publications.

Section 164.35 Equipment: all vessels. Seventeen commenters suggested that there be a requirement for "collision avoidance" device. Five commenters suggested a Loran C requirement for "large" vessels. Both will be the subject of a rulemaking action in the near future. Two commenters suggested that radio direction finding equipment be required. This equipment is now required for certain U.S. vessels. The Coast Guard is considering requiring it for all vessels of 1600 or more gross tons operating on the navigable waters of the United States.

Four commenters suggested that the burden of compliance for these equipment requirements be affirmatively placed upon vessel owners. Under the requirement of § 164.30 of this new part, if the owner, through his action or general policy, can reasonably be expected to ensure that the requirements of this equipment section are met, then the burden of compliance would be upon the owner.

Section 164.35(a). This paragraph requires a marine radar system for surface navigation. Four commenters suggested the requirement of gyro stabilization with north up capability. Three commenters suggested the requirement of reflection plotters. One comment suggested the requirement of a minimum 16 inch Plan Position Indicator (PPI) scope with moveable range rings. The Coast Guard has determined that these types of specifications are unnecessary at this time and that the usual radars that are available are sufficient for basic navigational safety. If further experience shows that more specification is necessary, the Coast Guard would conduct appropriate rulemaking actions.

Section 164.35(b). This paragraph requires an illuminated magnetic steering compass. Two commenters stated that many inland vessels do not use a compass. As stated earlier in this preamble, this part does not apply to most inland vessels because they are not 1600 gross tons or more. If an inland vessel is of 1600 gross tons or more and the compass is unnecessary for that vessel, a deviation may be requested under the requirements of § 164.55 of this new part.

Section 164.35(c). This paragraph requires a current magnetic compass deviation table or graph or compass comparison record for the steering compass. The comments on this requirement are discussed earlier in this preamble for § 164.11(i).

Section 164 35 (d) and (e). These were paragraph (d) in the proposal. For clarity, the two requirements, that there be a gyrocompass and that it or a repeater be illuminated and be at the main steering stand, are divided into two paragraphs.

Section 164.35(g). This was paragraph (f) in the proposal. It requires the display of maneuvering information on a fact sheet in the wheelhouse. To be consistent with a similar requirement in 46 CFR 35.20–40 and to clarify the intent of the requirement, the specific information required is stated in the paragraph in this final rule.

Section 164 35(h). This was paragraph (g) in the proposal. It requires an echo sounding device. Two commenters stated that the requirement was unnecessary in pilot waters and two other commenters stated that it was unnecessary for the Great Lakes. It is as important to know the depth of water in these waters as it is in any others. The requirement is unchanged.

Section 164.35(i). This was paragraph (h) in the proposal. It requires a device that can continuously record the depth readings of a vessel's echo sounding device. Nine commenters stated that the device serves no navigational purpose. The recorder is useful for navigational purposes as a valuable positioning device. One commenter stated that the requirement conflicted with IMCO Resolution A.224, which recommends a 15 minute recording capability. The requirement is that the device be one that can record continuously and not a requirement that it run continuously.

Section 164.35(j) in the proposal. This paragraph would have required an illuminated device that displays vessel speed, such as a pitometer log, revolutions-per-minute counter with speed equivalent table, or a direct read out device, such as a doppler indicator. Two commenters stated that such a device would not be useful on rivers. One commenter suggested that direct reading indicators, such as dopplers, be required on "large" vessels. After consideration of these comments and the facts that pitometer log swords would not be extended in shallow waters and revolutions-per-minute counters and speed equivalent tables are only valid in a steady state situation, the Coast Guard has determined that the requirement is insufficient as proposed. Because of the potential value of a direct speed indicating device, the Coast Guard is considering it as the subject of a future rulemaking action after more study; however, the requirement is not included in this final rule.

Section 164.37 in the proposal. This proposed section would have required two marine radar systems on vessels of 10,000 or more gross tons. As stated in the discussion of § 164.35 in this preamble, "collision avoidance" devices for vessels of 10,000 or more gross tons will be the subject of a rulemaking action in the near future. Since a radar system is a component part of some "collision avoidance" devices, this proposed requirement for a second radar is not included in this final rule; however, if after rulemaking procedures a requirement for collision avoidance devices is not promulgated as a final rule, the proposed requirement for a second radar would be reinstated.

Section 164.39 in the proposal. This proposed section would have required an illuminated rate of turn indicator on vessels of 35,000 gross tons or more. Two commenters stated that the device was not necessary on vessels of 100,000 gross tons or more. One commenter stated that the device was designed for use on rivers and was not appropriate for seagoing vessels. One commenter stated that the device had been insufficiently accurate when used on several of his vessels. The Coast Guard has determined that, although the rate of turn indicator may be useful on vessels of this size, further study is necessary and there is insufficient basis for requiring it in these rules.

Section 164.51 Deviations from rules: emergency. This section allows emergency deviations from these rules to avoid endangering persons, property, or the environment. Five commenters stated that this section only repeats the substance of Rule 29 of the International Regulations for Preventing Collisions at Sea, 1960, and Article 29 of the statutory inland "rules of the road" (33 U.S.C. 221). Although this section is consistent with those provisions, it applies specifically to the rules in this new part and not just to general navigation practices governed by the international regulations and inland "rules of the road." Proposed paragraph (b) of this section would have required a report of any deviation under this section to the Captain of the Port or Coast Guard District Commander. Two commenters stated this is unnecessary for brief emergency deviations. In light of these comments, the final rule is changed to require this report for only the failure of critical navigation equipment: the radar, gyrocompass, echo sounding device, or primary steering gear. This requirement is in paragraph (b) of new § 164.53. Paragraph (a) of this new section allows the person directing the movement of the vessel to continue a voyage if any equipment required by this new part stops operating properly, subject to the directions of the Captain of the Port under Part 160 of this chapter.

Section 164.55 Deviations from rules: continuing operation or period of time. This was § 164.53 in the proposal. Under this section, the Captain of the Port may authorize a deviation from these rules, if safe navigation is not impaired or the rules for preventing collisions at sea are not violated, for a vessel operating in the waters under his jurisdiction, for a continuing operation or for a period of time that he specifies. Two commenters stated that there would be "uneven enforcement" because Captains of the Port may interpret the rules differently. One commenter suggested that the section include a requirement that authorizations not be "unreasonably withheld." Another commenter suggested an internal procedure for informing Captains of the Port of the different deviations that have been authorized. The Coast Guard intends to issue internal guidelines so that this deviation authorization would be as consistent as is practicable. The intent of this section is to allow reasonable deviations from these rules if safe navigation of the vessel is not impaired and the rules for preventing collisions at sea are not violated. If a vessel operates in waters that include the jurisdiction of two or more Captains of the Port, an authorization from each is necessary. Deviation from the rules because of equipment failure on a particular voyage is covered under new § 164.53(a).

Section 164.61 Marine Casualty record retention. Two commenters stated that this requirement for record retention when a vessel is involved in a marine casualty is unreasonable. One commenter stated that the requirement is already included in 46 CFR. This section cross references the record retention requirement in 46 CFR 4.05–15 for the convenience of those persons using these rules which will be in 33 CFR. That requirement in Title 46 is necessary for the purposes of the marine casualty investigations that the Coast Guard is required to conduct.

This rule has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). Because the operational rules in this new part are followed already on most vessels and can be met with most existing manning levels, there should be no cost increase due to increased manning. The Coast Guard estimates that there should be no more than 1,100 U.S. flag vessels and 5,000 foreign flag vessels of 1,600 or more gross tons navigating in the navigable waters of the United States in any year. The following is based, in part, on a 1975 random survey of 300 vessels. Where appropriate, annual cost is based upon a 10 year amortization period. All of the vessels had radar. Adding a good marine radar to 5% of the 6,100 vessels for approximately $15,000 each would result in a cost of $1,282,500 in the first year and $457,500 in each of the following nine years. All the vessels had a magnetic compass. Adding the compass to 5% of the 6,100 vessels for $2,000 each would result in a cost of $496,000 in the first year and $61,000 in each of the following nine years. One vessel did not have a rudder angle indicator. Adding this indicator to 5% of the 6,100 vessels for approximately $4,000 each would result in a cost of $342,000 for the first year and $122,000 in each of the following nine years. Two vessels did not have a gyrocompass. Adding a gyrocompass to 10% of the 6,100 vessels for approximately $60,000 each would result in a cost of $10,260,000 in the first year and $3,660,000 in each of the following nine years. One hundred and seventy-nine vessels did not have their maneuvering characteristics posted. All U.S. vessels, approximately 1,100, are required to have it posted. If all 5,000 foreign vessels did not have it posted, testing for the information would cost approximately $5,000 each resulting in an amortized cost of $2,500,000 each year for ten years. Two vessels did not have a recording fathometer. Adding the fathometer to 10% of the vessels for $20,000 each would result in a cost of $2,420,000 in the first year and $1,000,000 in each of the following nine years.

The economic impact on the U.S. economy from U.S. vessels is the total cost of compliance in the first year plus 10% passed to the consumer in each of the ten years. The cost of foreign vessel compliance will be passed to the U.S. consumer evenly over the 10 year amortization period. The estimated first year cost from compliance to the U.S. shipping industry is $6,979,500. The estimated cost to the U.S. economy is $17,300,500 in the first year and $7,800,500 in each of the following nine years. The benefits from having this equipment and following the proper operating procedures would result not only in tangible savings, including less vessel damage or loss, less post vessel casualty costs, including investigation costs, and search and rescue costs, and less pollution clean up costs of which spill clean up costs alone are estimated at $30,000,000 to $35,000,000 per year, but significant intangible benefits, including less loss of life or injury, less pollution and resulting harm to the environment, and less hazards to navigation caused by abandoned vessels.

In consideration of the foregoing, Chapter I of Title 33, Code of Federal Regulations, is amended by adding a new Part 164 to read as follows:

Sec.
164.01 Applicability.
164.11 Navigation underway: general.
164.15 Navigation underway: confined or congested waters.
164.16 List of confined or congested waters.
164.19 Requirements for vessels at anchor.
164.25 Tests before entering or getting underway.
164.30 Charts, publications, and equipment: general.
164.33 Charts and publications.
164.35 Equipment: all vessels.
164.51 Deviation from rules: emergency.
164.53 Deviations from rules and reporting: non-operating equipment.
164.55 Deviations from rules: continuing operation or period of time.
164.61 Marine casualty reporting and record retention.

AUTHORITY: Sec. 104, 86 Stat. 427 (33 U.S.C. 1224); 49 CFR 1.46 (m) and (n)(4).

§ 164.01 Applicability.

This part applies to each self-propelled vessel of 1600 or more gross tons when it is operating in or on the navigable waters of the United States, except the Panama Canal and the St. Lawrence Seaway.

§ 164.11 Navigation underway: general.

The owner, master, or person in charge of each vessel underway shall ensure that:

(a) The wheelhouse is constantly manned by persons who—

(1) Direct and control the movement of the vessel; and

(2) Fix the vessel's position;

(b) Each person performing a duty described in paragraph (a) of this section is competent to perform that duty;

(c) The position of the vessel at each fix is plotted on a chart of the area and the person directing the movement of the vessel is informed of the vessel's position.

(d) Electronic and other navigational equipment, external fixed aids to navigation, geographic reference points, and hydrographic contours are used when fixing the vessel's position;

(e) Buoys alone are not used to fix the vessel's position;

NOTE.—Buoys are aids to navigation placed in approximate positions to alert the mariner to hazards to navigation or to indicate the orientation of a channel. Bouys may not maintain an exact position because strong or varying currents, heavy seas, ice, and collisions with vessels can move or sink them or set them adrift. Although buoys may corroborate a position fixed by other means, buoys cannot be used to fix a position; however, if no other aids are available, buoys alone may be used to establish an estimated position.

(f) The danger of each closing visual or each closing radar contact is evaluated and the person directing the movement of the vessel knows the evaluation;

(g) Rudder orders are executed as given;

(h) Engine speed and direction orders are executed as given;

(i) Magnetic variation and deviation and gyrocompass errors are known and correctly applied by the person directing the movement of the vessel;

(j) A person whom he has determined is competent to steer the vessel is in the wheelhouse at all times;[1]

(k) If a pilot other than a member of the vessel's crew is employed, the pilot is informed of the draft, maneuvering characteristics, and pecularities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation;

(l) Current velocity and direction for the area to be transited are known by the person directing the movement of the vessel;

(m) Predicted set and drift are known by the person directing movement of the vessel;

(n) Tidal state for the area to be transited is known by the person directing movement of the vessel;

(o) The vessel's anchors are ready for letting go;

(p) The person directing the movement of the vessel sets the vessel's speed with consideration for—

(1) The prevailing visibility and weather conditions;

(2) The proximity of the vessel to fixed shore and marine structures;

(3) The tendency of the vessel underway to squat and suffer impairment of maneuverability when there is small underkeel clearance;

(4) The comparative proportions of the vessel and the channel;

(5) The density of marine traffic;

(6) The damage that might be caused by the vessel's wake;

(7) The strength and direction of the current; and

(8) Any local vessel speed limit;

(q) The tests required by § 164.25 are made and recorded in the vessel's log; and

(r) The equipment required by this part is maintained in operable condition.

§ 164.15 Navigation underway: confined or congested waters.

In the confined or congested waters described in § 164.16, the master or person in charge of each vessel underway shall ensure that—

(a) Propulsion machinery can respond immediately through its full operating range;

(b) The engine room, including the main engine control station even if it is not in the engine room, is manned to operate the propulsion machinery as required by paragraph (a) of this section;

(c) Persons are available to rapidly anchor the vessel in an emergency; and

(d) The automatic pilot device is not in use.

§ 164.16 List of confined or congested waters. [Reserved]

§ 164.19 Requirements for vessels at anchor.

The master or person in charge of each vessel that is anchored shall ensure that—

(a) A proper anchor watch is maintained;

(b) Procedures are followed to detect a dragging anchor; and

(c) Whenever weather, tide, or current conditions are likely to cause the vessel's anchor to drag, action is taken to ensure the safety of the vessel, structures, and other vessels, such as being ready to veer chain, let go a second anchor, or get underway using the vessel's own propulsion or tug assistance.

§ 164.25 Tests before entering or getting underway.

No person may cause a vessel to enter into or get underway on the navigable waters of the United States unless, no more than 12 hours before entering or getting underway, the following equipment has been tested:

(a) Primary and secondary steering gear.

(b) All internal vessel control communications and vessel control alarms.

(c) Standby or emergency generator for as long as necessary to show proper functioning, including steady state temperature and pressure readings.

(d) Storage batteries for emergency lighting and power systems in vessel control and propulsion machinery spaces.

(e) Main propulsion machinery, ahead and astern.

§ 164.30 Charts, publications, and equipment: general.

No person may operate or cause the operation of a vessel unless the vessel has the charts, publications, and equipment as required by §§ 164.33 through 164.35 of this part.

§ 164.33 Charts and publications.

(a) Each vessel must have the following:

(1) Except as provided by paragraph (b) of this section, charts of the area to be transited published by the National Ocean Survey, U.S. Army Corps of Engineers, or a river authority that—

(i) are of a large enough scale and have enough detail to enable safe navigation of the area; and

(ii) are the most recently published and available for the area and currently corrected.

(2) Except as provided by paragraph (b) of this section, the most recent, available, and currently corrected copy of, or applicable extract from, each of the following publications, if it includes the area to be transited:

(i) U.S. Coast Pilot.

(ii) Coast Guard Light List.

(iii) Notices to Mariners published by Defense Mapping Agency Hydrographic Center and local Coast Guard Notice to Mariners.

(iv) Tide Tables published by the National Ocean Survey.

(v) Tidal Current Tables published by the National Ocean Survey, or river current publication issued by the U.S. Army, Corps of Engineers, or a river authority.

(b) A vessel may have a chart or publication published by a foreign government instead of a chart or publication required by this section if the chart or publication contains similar information to the U.S. Government publication or chart. A vessel bound from a foreign port to a port in the United States may have the latest charts and publications that were available at previous ports of call.

§ 164.35 Equipment: all vessels.

Each vessel must have the following:

(a) A marine radar system for surface navigation.

(b) An illuminated magnetic steering compass, mounted in a binnacle, that can be read at the vessel's main steering stand.

(c) A current magnetic compass deviation table or graph or compass comparison record for the steering compass, in the wheelhouse.

(d) A gyrocompass.

(e) An illuminated repeater for the gyrocompass required by paragraph (d) of this section that is at the main steering stand, unless that gyrocompass is illuminated and is at the main steering stand.

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[1] See also 46 U.S.C. 672, which requires an able seaman at the wheel on U.S. vessels of 100 gross tons or more in narrow or crowded waters or during low visibility.

(f) An illuminated rudder angle indicator in the wheelhouse.

(g) The following maneuvering information prominently displayed on a fact sheet in the wheelhouse:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller, a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(6) The maneuvering information for the normal load and normal ballast condition for—

(i) Calm weather—wind 10 knots or less, calm sea;

(ii) No current;

(iii) Deep water conditions—water depth twice the vessel's draft or greater; and

(iv) Clean hull.

(7) At the bottom of the fact sheet, the following statement:

WARNING

The response of the (name of the vessel) may be different from that listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater;

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(h) An echo depth sounding device.

(i) A device that can continuously record the depth readings of the vessel's echo depth sounding device.

(j) Equipment on the bridge for plotting relative motion.

§ 164.51 Deviations from rules: emergency.

Except for the requirements of § 164.53 (b), in an emergency, any person may deviate from any rule in this part to the extent necessary to avoid endangering persons, property, or the environment.

§ 164.53 Deviations from rules and reporting: non-operating equipment.

(a) If during a voyage any equipment required by this part stops operating properly, the person directing the movement of the vessel may complete the voyage subject to the requirements in Part 160 of this chapter.

(b) If the vessel's radar, gyrocompass, echo depth sounding device, or primary steering gear stops operating properly, the person directing the movement of the vessel must report or cause to be reported that it is not operating properly to the nearest Captain of the Port or Coast Guard District Commander as soon as possible.

§ 164.55 Deviations from rules: continuing operation or period of time.

The Captain of the Port, upon written application, may authorize a deviation from any rule in this part if he determines that the deviation does not impair the safe navigation of the vessel under anticipated conditions and will not result in a violation of the rules for preventing collisions at sea. The authorization may be issued for vessels operating in the waters under the jurisdiction of the Captain of the Port for any continuing operation or period of time the Captain of the Port specifies.

§ 164.61 Marine casualty reporting and record retention.

When a vessel is involved in a marine casualty as defined in 46 CFR 4.03-1, the master or person in charge of the vessel shall—

(a) Ensure compliance with 46 CFR Subpart 4.05, "Notice of Marine Casualty and Voyage Records;" and

(b) Ensure that the voyage records required by 46 CFR 4.05-15 are retained for—

(1) 30 days after the casualty if the vessel remains in the navigable waters of the United States; or

(2) 30 days after the return of the vessel to a United States port if the vessel departs the navigable waters of the United States within 30 days after the marine casualty.

Effective date: This rule becomes effective on June 1, 1977.

The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A-107.

Dated: January 26, 1977.

O. W. Siler,
Admiral, U.S. Coast Guard Commandant.

[FR Doc.77-2994 Filed 1-28-77;8:45 am]

Title 46—Shipping

CHAPTER I—COAST GUARD, DEPARTMENT OF TRANSPORTATION

[CGD 75-074]

Vessel Inspection Regulations

On September 16, 1975, a document was published in the Federal Register (40 FR 24585) proposing to amend the vessel inspection regulations in Chapter I of Title 46 of the Code of Federal Regulations. Interested parties were given an opportunity to submit, not later than October 31, 1975, data, views and recommendations regarding the proposed amendments. These regulations are interrelated with and therefore must be read together with the Navigation Safety Regulations (33 CFR 164) published in this Federal Register.

Several comments were received in response to this proposal. One commentor felt that the proposed rules concerning nautical publications should apply only to vessels on the high seas and international waters and should not apply to tankships operating exclusively on bays, sounds, and lakes other than the Great Lakes. Current rules require that these vessels meet the same navigation requirements as other tankships in ocean, coastwise, and Great Lakes service. There are sufficient hazards to safe navigation in all waters to warrant the required carriage of nautical publications for the intended voyage in addition to the presently required charts. For this reason, the comment has not been adopted.

One commentor expressed concern about the effect of the proposed rules regarding radar, gyrocompass, and radio directional finders on vessels solely navigating the Great Lakes. The requirements of these regulations for radar and gyrocompasses apply only to vessels operating in ocean or coastwise service and are not applicable to vessels navigating solely on the Great Lakes. However, the regulations in 33 CFR Part 164, which require radar and gyrocompasses, apply to vessels navigating on the Great Lakes. The proposed rules did not address radio directional finders. The Coast Guard did not intend to extend the requirements for radar, magnetic compasses, and gyrocompasses to barges. This was not clear in the proposed regulations. To clarify this, the following changes are made in the final regulations. The words "mechanically propelled" are added to §§ 77.09-1(a), 77.11-1 (a) and (b), 96.17-1 (a) and (b), 96.25-1(a), 167.40-40(a), 167.40-45 (a) and (b), 195.17(a), 195.19-1 (a) and (b), as appropriate. One commentor suggested that the term "helmsman" could be interpreted as limited to a specific position rather than a specific function and suggested the use of the term "qualified person". The Coast Guard agrees that the term "helmsman" could possibly be misinterpreted as the commentor suggested. For this reason, the term "qualified helmsman" has been changed to "competent person".

The references to Federal Communications Commission regulations for radar have been deleted to make these regulations consistent with the Navigation Safety Regulations in 33 CFR Part 164 which require marine radars.

In consideration of the foregoing, Chapter I of Title 46 of the Code of Federal Regulations is amended as follows:

PART 32—SPECIAL EQUIPMENT MACHINERY AND HULL REQUIREMENTS

§ 32.15-10 [Amended]

1. In 32.15-10, by deleting the words "mechanical or" in the first sentence.

2. By adding a new sentence at the end of § 32.15-20(a) to read as follows:

§ 32.15–20 Radiotelegraph and Radiotelephone—T/ALL.

(a) * * * All vessels on an international voyage that are required to carry a radiotelegraph or radiotelephone in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

3. By adding a new § 32.15–30 to read as follows:

§ 32.15–30 Radar—T/OC.

All tankships of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

4. By adding a new § 32.15–35 to read as follows:

§ 32.15–35 Magnetic Compass and Gyrocompass—T/OC.

(a) All tankships in ocean or coastwise service must be fitted with a magnetic compass.

(b) All tankships of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each tankship must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

PART 35—OPERATIONS

5. By revising § 35.20–1(d) to read as follows:

§ 35.20–1 Notice to Mariners; aids to navigation—T/OCLB.

* * * * *

(d) As appropriate for the intended voyage, all vessels must carry adequate and up-to-date—

(1) Charts;
(2) Sailing directions;
(3) Coast pilots;
(4) Light lists;
(5) Notices to mariners;
(6) Tide tables;
(7) Current tables; and
(8) All other nautical publications necessary.[1]

6. By adding a new § 35.20–45 to read as follows:

§ 35.20–45 Use of Auto Pilot—T/ALL.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

7. By revising the first sentence of § 35.30–20 to read as follows:

§ 35.30–20 Emergency Equipment—TB/ALL.

(a) Two emergency outfits, stored for use in widely separated, accessibe locations, are required for the following:

* * * * *

PART 77—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

8. By adding a new Subpart 77.09 to read as follows:

Subpart 77.09—Radar

§ 77.09–1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

9. By adding a new Subpart 77.11 to read as follows:

Subpart 77.11—Magnetic Compass and Gyrocompass

§ 77.11–1 When required.

(a) All mechanically propelled vessels in ocean, coastwise or Great Lakes service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

10. By adding a new paragraph (b) to § 77.13–1 to read as follows:

Subpart 77.13—Radiotelegraph and Radiotelephone

§ 77.13–1 Required by Federal Communications Commission.

* * * * *

(b) All vessels on an international voyage which are required to carry a radiotelegraph or radiotelephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

§ 77.27–1 [Amended]

11. In 77.27–1, by deleting the words "mechanical or" from the first sentence.

PART 78—OPERATIONS

12. By revising § 78.05–5 to read as follows:

§ 78.05–5 Charts and Nautical Publications.

As appropriate for the intended voyage, all vessels except barges, ferryboats and vessels operating exclusively on rivers, must carry adequate and up-to-date—

(a) Charts;
(b) Sailing directions;
(c) Coast pilots;
(d) Light lists;
(e) Notices to mariners;
(f) Tide tables;
(g) Current tables; and
(h) All other nautical publications necessary.[1]

13. By adding a new Subpart 78.19 to read as follows:

Subpart 78.19—Auto Pilot

§ 78.19–1 Use of Auto Pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

PART 96—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

14. By adding a new paragraph (b) to § 96.13–1 to read as follows:

Subpart 96.13—Radiotelegraph and Radiotelephone

§ 96.13–1 Required by Federal Communications Commission.

* * * * *

(b) All vessels on an international voyage which are required to carry a radiotelegraph or radiotelephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

15. By adding a new Subpart 96.17 to read as follows:

Subpart 96.17—Magnetic Compass and Gyrocompass

§ 96.17–1 When required.

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand

16. By adding a new Subpart 96.25 to read as follows:

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[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

Subpart 96.25—Radar

§ 96.25–1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

§ 96.27–1 [Amended]

17. In 96.27–1, by deleting the words "mechanical or" in the first sentence of paragraph (a).

18. By revising § 96.35–15 to read as follows:

§ 96.35–15 Stowage.

The fireman's outfits must be stored in widely separated, accessible locations.

PART 97—OPERATIONS

19. By revising § 97.05–5(a) to read as follows:

§ 97.05–5 Charts and nautical publications.

As appropriate for the intended voyage, all vessels except barges, vessels operating exclusively on rivers, and motorboats other than those certificated for ocean or coastwise route, must carry adequate and up-to-date—

(a) Charts;
(b) Sailing directions;
(c) Coast pilots;
(d) Light lists;
(e) Notices to mariners;
(f) Tide tables;
(g) Current tables; and
(h) All other nautical publications necessary.[1]

20. By adding a new Subpart 97.16 to read as follows:

Subpart 97.16—Auto Pilot

§ 97.16–1 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;
(b) Conditions of restricted visibility; and
(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control;

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

PART 167—PUBLIC NAUTICAL SCHOOL SHIPS

§ 167.40–20 [Amended]

21. In § 167.40–20, by deleting the words "mechanical or" from the first and second sentences.

22. By adding a new § 167.40–40 to read as follows:

§ 167.40–40 Radar.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

23. By adding a new § 167.40–45 to read as follows:

§ 167.40–45 Magnetic compass and gyrocompass.

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

24. By adding a new § 167.65–35 to read as follows:

§ 167.65–35 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;
(b) Conditions of restricted visibility; and
(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish human control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

25. By revising § 167.65–45(d) to read as follows:

§ 167.65–45 Notice to mariners; aids to navigation.

* * * * *

(d) As appropriate for the intended voyage, all nautical school ships must carry adequate and up-to-date—

(1) Charts;
(2) Sailing directions;
(3) Coast pilots;
(4) Light lists;
(5) Notices to mariners;
(6) Tide tables;
(7) Current tables; and
(8) All other nautical publications necessary.[1]

PART 184—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

26. By adding a new paragraph (c) to § 184.25–1 to read as follows:

Subpart 184.25—Radio

§ 184.25–1 Requirements of the Federal Communications Commission.

* * * * *

(c) All vessels on an international voyages which are required to carry a radiotelegraph or radiotelephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

PART 185—OPERATIONS

27. By adding a new § 185.20–30 to read as follows:

Subpart 185.20—Miscellaneous Operating Requirements

§ 185.20–30 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;
(b) Conditions of restricted visibility; and
(c) All other hazardous navigational situations, the operator shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) That a competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the operator.

28. By adding a new § 185.20–35 to read as follows:

Subpart 185.20—Miscellaneous Operating Requirements

§ 185.20–35 Charts and nautical publications.

As appropriate for the intended voyage, all vessels must carry adequate and up-to-date—

(a) Charts;
(b) Sailing directions;
(c) Coast pilots;
(d) Light lists;
(e) Notices to mariners;
(f) Tide tables;
(g) Current tables; and
(h) All other nautical publications necessary.[1]

PART 195—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

29. By adding a new paragraph (b) to § 195.13–1 to read as follows:

Subpart 195.13—Radiotelegraph and Radiotelephone

§ 195.13–1 Required by Federal Communications Commission.

* * * * *

(b) All mechanically propelled vessels on an international voyage which are required to carry a radiotelegraph or radio telephone installation in accordance with Chapter IV of the Safety of Life at Sea Convention, 1960, must carry the International Code of Signals.

30. By adding a new Subpart 195.17 to read as follows:

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[1] For United States vessels in or on the navigable waters of the United States, see CFR 164.33.

[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

Subpart 195.17—Radar

§ 195.17–1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

31. By adding a new Subpart 195.19 to read as follows:

Subpart 195.19—Magnetic Compass and Gyrocompass

§ 195.19–1 When required.

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

§ 195.27–1 [Amended].

32. In 195.27–1, by deleting the words "mechanical or" in the first sentence.

33. By adding a new sentence at the end of § 195.35–10(b) to read as follows:

§ 195.35–10 Fireman's outfit.

* * * * *

(b) * * * The fireman's outfits must be stored in widely separated, accessible locations.

PART 196—OPERATIONS

34. By revising § 196.05–5 to read as follows:

§ 196.05–5 Charts and nautical publications.

As appropriate for the intended voyage, all vessels except barges, and vessels operating exclusively on rivers, must carry adequate and up-to-date—

(a) Charts;
(b) Sailing directions;
(c) Coast pilots;
(d) Light lists;
(e) Notices to mariners;
(f) Tide tables;
(g) Current tables; and
(h) All other nautical publications necessary.[1]

(46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.46(b))

Effective date: These amendments are effective on June 1, 1077.

The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A–107.

Dated: January 28, 1977.

O. W. Siler,
Admiral, U.S. Coast Guard, Commandant.

[FR Doc.77–2995 Filed 1–28–77;8:45 am]

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[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 184.33.

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Part 164]

[CGD 77-002]

PROPOSED NAVIGATION SAFETY REQUIREMENTS

LORAN–C on Vessels of 1600 Gross Tons or More

• *Purpose.* The Coast Guard is considering amending the navigation safety requirements by adding LORAN–C to the list of required equipment for vessels of 1600 gross tons or more. •

Written comments. Interested persons are invited to participate in this proposed rulemaking by submitting written data, views, or arguments to the Commandant (G–CMC/81), U.S. Coast Guard, Washington, D.C., 20590. Each person submitting a comment should include his name and address, identify this notice (CGD 77–002), and give reasons for support of his comment. Comments received before April 1, 1977 will be considered before final action is taken on this proposal. Copies of all written comments received will be available for examination by interested persons in Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. The proposal may be changed in light of the comments received.

Public Hearing. The Coast Guard will hold a public hearing on March 4, 1977, beginning at 10:00 a.m., in Room 2232, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. An additional public hearing will be held on March 16, 1977, beginning at 9:30 a.m., in the Marine Room, Travel Lodge at The Wharf, 250 Beach Street, San Francisco, California. Interested persons are invited to attend the hearing and present oral or written statements on this proposal. It is requested that anyone desiring to make oral comments at either hearing notify the Commandant (G–CMC/81), U.S. Coast Guard, Washington, D.C. 20590, at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. It is urged that a written summary or copy of the oral presentation be included with the request.

Summary of Proposal. New Navigation Safety Regulations (Part 164) are being published on page 5956 of this issue of the Federal Register. When the Navigation Safety Regulations were proposed in the May 6, 1976, issue of the Federal Register (41 FR 18766), the Coast Guard stated that the purposes of the rules would be to prevent vessel collisions and groundings and protect the navigable waters from environmental harm resulting from vessel collisions and groundings. The Coast Guard noted a concern about some vessels that do not currently approach an appropriate level of navigation practice and equipment. That concern has been intensified by recent tanker groundings. Some of these might not have occurred if the vessels involved had been making use of the best navigational tools available.

The Department of Transportation maintains a National Plan for Navigation. It is the official source of navigation policy and plans for the Department. The April, 1972, edition of the National Plan for Navigation was amended by an Annex published as a Notice in the July 19, 1974, issue of the Federal Register (39 FR 26468). The amendment announced the designation and implementation of LORAN–C as the government-provided radionavigation system for the U.S. maritime coastal confluence zone. The coastal confluence zone is defined as the seaward approaches to land, the inner boundary of which is the harbor entrance, and the outer boundary of which is 50 nautical miles offshore or the edge of the continental shelf (100 fathom curve), whichever is greater.

The July, 1974, Annex describes in detail how LORAN–C was selected after consideration of the alternative systems, LORAN–A, Differential Omega, and Decca.

The LORAN–C service in the coastal confluence zone is designed to provide 95% assurance that a vessel can fix its position to an accuracy of ¼ mile. The navigation system accuracy requirement has been established so that a vessel could be navigated safely along a track to its destination or within its designated shipping lane.

The existing LORAN–C system is being expanded to provide coverage for the entire U.S. coastal confluence zone and the Great Lakes. Overseas stations will continue to be operated by the Coast Guard in response to the requirements of the Department of Defense. Existing system coverage and new Pacific Coast service, which will become available by mid-1977, is depicted in the LORAN–C Coverage Diagram, Defense Mapping Agency Hydrographic Center Chart No. 5130. Basically, LORAN–C presently provides ¼ nautical mile accuracy over about two-thirds of the U.S. East Coast waters, throughout the Bering Sea, and in parts of the Hawaiian Islands and surrounding waters.

The expanded system is to provide coverage, with a fix accuracy of ¼ nautical mile or better, throughout the Great Lakes and in all U.S. coastal waters (out to 200 miles or more) except northern Alaskan waters and some Hawaiian areas. Scheduled dates for the availability of expanded service are approximately:

West Coast	Spring, 1977
Gulf of Alaska	Spring, 1977
East Coast	Expanded service: Summer, 1978.
East Coast	Complete service: Summer, 1979.
Gulf of Mexico	Summer, 1978
Great Lakes	Early 1980

Since, as of Spring 1977, LORAN–C will provide coverage of a major fraction of the coastal confluence zone, since the system is programmed for future expansion, and since there is a need to upgrade the ability of vessels entering the navigable waters of the U.S. to be informed accurately and continuously of their progress along a track, the Coast Guard has concluded that the use of LORAN–C should be a requirement for certain vessels entering U.S. waters. While this rule, of course, only applies on the navigable waters of the United States, the Coast Guard feels that operators of vessels with LORAN–C receivers installed will avail themselves of the benefits of the system in the offshore approaches as well as in the overseas coverage areas. An incidental benefit will be the ability to navigate with greater confidence through areas of outer continental shelf resource exploration and production.

The Coast Guard randomly sampled navigation practice and equipment in mid-1975. Of the vessels boarded, 40% were equipped with LORAN–C receivers. Vessels under U.S. flag comprised 21% of the sample; 70% of these were equipped with LORAN–C. This 70% figure included both tankers and freighters. With respect to vessels sailing under foreign flag, 39% of foreign freighters were equipped with LORAN–C, and only 24% of foreign tankers were so equipped. Considering the reasonable marketing costs of receivers, it would not appear that adequate use is being made of this navigational aid.

While the Coast Guard proposes to require LORAN–C receivers on all vessels of 1600 or more gross tons that enter U.S. waters, it recognizes that a requirement of this nature would place a sudden surge on manufacturers' capabilities and would cause a severe backlog problem for those manufacturers. Accordingly, the Coast Guard proposes that if the amendment is adopted, it will become effective for each category of vessel at a staggered interval. Because the tank vessel segment of the industry is somewhat smaller than the freighter segment, and because the ability to accurately navigate tankers has assumed much greater importance of late, it is proposed that this segment of the industry would be required to comply with the regulation at the earliest time, such as 120 days after publication of the rule. It is proposed to require the remaining vessels to comply one year after publication of the rule.

In consideration of the foregoing, it is proposed to revise § 164.35 of Title 33. Code of Federal Regulations, by adding a new paragraph (k) to read as follows:

§ 164.35 Equipment: all vessels.

* * * * *

(k) A LORAN–C receiver.

(Sec. 104, 86 Stat. 427 (33 U.S.C. 1224); sec. 201(3), 86 Stat. 428, as amended (46 U.S.C. 391a(3)); 49 CFR 1.46 (n)(4).)

The Coast Guard has determined that this document does not contain a major rule requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A–107.

Dated: January 26, 1977.

A. F. Fugaro,
Rear Admiral, U.S. Coast Guard Chief, Office of Marine Environment and Systems.

[FR Doc.77–2996 Filed 1–28–77;8:45 am]

federal register

MONDAY, MAY 16, 1977
PART II

DEPARTMENT OF TRANSPORTATION

Coast Guard

■

ADDITIONAL EQUIPMENT FOR VESSELS OF 10,000 GROSS TONS OR MORE; INERT GAS SYSTEM; TANK VESSELS CARRYING OIL IN TRADE; IMPROVED EMERGENCY STANDARDS FOR OIL TANKERS

Proposed Rulemaking

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Part 157]

[CGG 77–058]

TANK VESSELS CARRYING OIL IN TRADE

Protection of Marine Environment

AGENCY: Coast Guard, DOT.

ACTION: Proposed rule.

SUMMARY: The Coast Guard is considering amending the rules for the protection of the marine environment relating to tank vessels carrying oil in bulk by requiring all oil tankers of 20,000 tons deadweight (DWT) or more, U.S. and foreign, that call at American ports to have segregated ballast capabilities and that those built under a contract awarded after [December 31, 1979], or delivered after [December 31, 1981], have double bottoms. This amendment is in response to that portion of the President's March 17, 1977, message to Congress relating to double bottoms and segregated ballast on tankers over 20,000 tons DWT entering U.S. ports. The adoption of this amendment would result in reduced amounts of oil spillage into the navigable waters of the United States and oceans.

DATES: 1. Comments must be received on or before: September 1, 1977.

2. Public hearings: The Coast Guard will hold two public hearings on this proposal. The first will be held commencing at 9:00 a.m. on June 16, 1977, and continuing until all commentors have been heard, in the Santa Fe Helix del Mar Room, Town and Country Hotel, 500 Hotel Circle North, San Diego, California 92138. The second will be held commencing at 9:00 a.m. on June 21, 1977, and continuing until all commentors have been heard, in Room 2230, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

ADDRESSES: Comments should be submitted to Commandant (G–CMC/81), U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590 (202 426–1477). A copy of the economic evaluation from which the economic summary in this document is taken and the draft environmental impact statement are also available for examination at the above address.

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590 (202 426–1477).

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rulemaking by submitting written data, views, or arguments. Written comments should include the docket number (CGD 77–053), the name and address of the person submitting the comments, the specific section of the proposal to which the comment applies, and the reason for the comment.

All comments received will be considered before final action is taken on this proposal. Interested persons are invited to attend the hearing and present oral or written statements on the proposal. It is requested that anyone desiring to make comments notify Captain Greiner at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. It is urged that a written summary or copy of the oral presentation be included with the notification.

Drafting Information

The principal persons involved in drafting this proposal are: Commander Richard A. Sutherland, Project Manager, Office of Merchant Marine Safety, and Mr. Stanley Colby, Project Attorney, Office of the Chief Counsel.

Discussion of the Proposed Regulations

The President's message of March 17, 1977, to Congress included measures designed to reduce oil pollution caused by tanker accidents and by routine operational discharges from all vessels. The President informed Congress that the Secretary of Transportation would be instructed to develop new rules within 60 days for all oil tankers 20,000 tons DWT or more, U.S. and foreign, that call at American ports. Included were rules for double bottoms in tankers built in the future and segregated ballast on all tankers. The proposal in this document is in response to the President's initiative.

The regulations would require a double bottom beneath the cargo carrying portion of a seagoing vessel's hull if the vessel is 20,000 tons DWT or more and is constructed under a contract awarded after [December 31, 1979] or if it is to be delivered after [December 31, 1981]. As authorized in the President's message, the Coast Guard may accept technological improvements or alternatives which will result in equivalent pollution protection in grounding accidents.

The regulations would also require that all seagoing vessels of 20,000 tons DWT or more have a segregated ballast capability by [January 1, 1982]. Again, provision is made for acceptance of technological improvements or alternatives which will result in equivalent pollution protection against operational discharges.

The regulations would apply to vessels over 20,000 tons DWT which enter the navigable waters of the United States to engage in trade.

It will be noted that implementation dates in this proposal are enclosed in brackets. This is to indicate that the dates are tentative and may be advanced or delayed by as much as one year, depending upon comments received and the outcome of current international negotiations directed at developing international standards of comparable scope.

This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200).

The analysis shows that allowing for some market compression, approximately 1250 foreign tank vessels and 220 U.S. seagoing tank vessels would be affected by the segregated ballast retrofit requirement. In addition, approximately 25 new double bottom tankers will have to be built in the United States to meet domestic shipping demands. The projected costs of the requirements to the U.S. seagoing transportation industry is estimated to be $77 million in the 2 year period, 1981 and 1982. Total added costs to be passed on to the U.S. consumer by way of higher freight rates is estimated to be $125 million annually.

The expected benefits of the requirements are reduced amounts of spillage of oil into the navigable water of the U.S. as a result of vessel groundings, reduced amounts of operational discharge to the oceans from deballasting and tank cleaning, and conservation of oil.

In consideration of the foregoing, it is proposed to amend Part 157 of Title 33, Code of Federal Regulations, as follows:

1. Section 157.07 is revised to read as follows:

§ 157.07 Equivalents.

The Coast Guard may accept, in accordance with the procedure in 46 CFR Part 30.15–1, techologically improved or alternate design or equipment as equivalent to a design or any equipment required under this part.

2. Section 157.10 is added to read as follows:

§ 157.10 Segregated ballast and double bottoms.

(a) After [December 31, 1981,] a vessel of 20,000 tons DWT or more must have segregated ballast tanks that have a total capacity to allow the vessel to meet the draft and trim requirements in paragraph (b) of this section without recourse to the use of oil tanks for water ballast.

(b) In any ballast condition during any part of a voyage, including that of lightweight with only segregated ballast, the vessel's drafts and trim must have the capability of meeting each of the following requirements.

(1) The molded draft amidship (dm) in meters without vessel deformation must not be less than dm in the following mathematical relationship:

$$dm = 2.0 + 0.02L$$

(2) The drafts at the forward and after perpendiculars must correspond to those determined by the draft amidship as specified in paragraph (b)(1) of this section, in association with trim by the stern of no more than 0.015L.

(3) The minimum allowable draft at the after perpendicular is that which is necessary to obtain full immersion of the propeller.

(c) A vessel may have pollution protection against operational discharges equivalent to paragraph (b) of this section that is accepted under § 157.07.

(d) The vessel may be designed to carry ballast water in cargo tanks during the condition described in § 157.35.

(e) A vessel of 20,000 tons DWT or more for which the construction contract is awarded after [December 31, 1979] or which is delivered after [December 31, 1981] must—

(1) Have a double bottom that does not carry oil and that is at least the molded breadth divided by fifteen (B/15) or two meters in height, whichever is less, under each oil cargo tank; or

(2) Have pollution protection against groundings equivalent to paragraph (e) (1) of this section that is accepted under § 157.07.

(f) Any excess capacity of segregated ballast under paragraph (b) of this section that exceeds the double bottom capacity must be distributed adjacent to the side shell of the vessel.

3. Subpart B is amended by adding § 157.24a to read as follows:

§ 157.24a Submission of segregated ballast calculations.

After [December 31, 1981,] the owner of a vessel under § 157.10(b) shall submit the following to the Coast Guard before that vessel enters the navigable waters of the United States:

(a) Calculations to substantiate compliance with the segregated ballast distribution requirements in § 157.10(b).

(b) Plans and specifications for the vessel that include—

(1) Design characteristics;

(2) A lines plan;

(3) Curves of form (hydrostatic curves) or hydrostatic tables;

(4) A general arrangement plan of each deck and level;

(5) Inboard and outboard profile plans showing oiltight and watertight bulkheads;

(6) A midship section plan;

(7) A capacity plan showing the capacity and the vertical and longitudinal centers of gravity of each cargo space, tank, and similar space;

(8) Tank sounding tables or tank capacity tables;

(9) Draft mark locations;

(10) Detailed plans of watertight doors; and

(11) Detailed plans of vents.

(c) A certified statement accepting the design of the vessel by the classification society that oversees the vessel if that design meets the classification society's rules and the requirements of § 157.10.

(Title II, Sec. 201, 86 Stat. 427, as amended (46 U.S.C. 391a); 49 CFR 1.46(n)(4))

NOTE.—The Coast Guard has determined that this document contains a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A-107 and certifies that an Economic Impact Statement has been prepared. .

Dated: May 6, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

[FR Doc.77-13806 Filed 5-13-77;8:45 am]

[33 CFR Part 157]

[CGD 77-063]

IMPROVED EMERGENCY STEERING STANDARDS FOR OIL TANKERS

AGENCY: Coast Guard, DOT.

ACTION: Proposed Rules.

SUMMARY: The Coast Guard is proposing to amend the rules for the protection of the marine environment relating to tank vessels carrying oil in bulk by requiring improved emergency steering standards for all oil tankers of 20,000 deadweight tons or more, both U.S. and foreign, that call at U.S. ports. This proposal implements the portion of the President's message of March 17, 1977, to Congress concerning measures for reducing pollution caused by tanker accidents. The President's message directed that the standards in this proposal and other regulations would be developed. Adoption of the regulations in this proposal would reduce the probability of collision and grounding of oil tankers caused by steering failure and would, therefore, reduce the risk of oil pollution as well as property damage, personal injury, and death that could result from these accidents.

DATES: 1. Comments must be received on or before: September 1, 1977.

2. Public hearings: The Coast Guard will hold two public hearings on this proposal. The first will be held commencing at 9:00 a.m. on June 16, 1977, and continuing until all commenters have been heard, in the Santa Fe Helix del Mar Room, Town and Country Hotel, 500 Hotel Circle North, San Diego, California 92138. The second will be held commencing at 9:00 a.m. on June 21, 1977, and continuing until all commenters have been heard, in Room 2230, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

ADDRESSES: Comments should be submitted to Commandant (G-CMC/81), U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. Copies of the economic evaluation from which the economic summary in this document is taken are available for examination at the above address. Copies of the environmental impact declaration are also available at the above address.

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. (202-426-1477).

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rule making by submitting written data, views, or arguments. Written comments should include the docket number (CGD 77-063), the name and address of the person submitting the comments, the specific section of the proposal to which the comment applies, and the reason for the comment. The proposal may be changed in light of comments received. All comments received will be considered before final action is taken on this proposal.

Interested persons are invited to attend the hearing and present oral or written statements on this proposal. It is requested that anyone desiring to make comments notify Captain Greiner at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. It is urged that a written summary or copy of the oral presentation be included with the notification.

DRAFTNG INFORMATON

The principal persons involved in drafting this proposal are: Commander Robert G. Williams, Project Manager for the Office of Merchant Marine Safety, and Mr. William R. Register, Project Attorney for the Office of Chief Counsel.

DISCUSSION OF THE PROPOSED REGULATIONS

1. The President's message of March 17, 1977, to Congress included initiatives designed to reduce oil pollution caused by tanker accidents and by routine operational discharges from all vessels. The President informed Congress that the Secretary of Transportation would be instructed to develop new rules within 60 days for all oil tankers of 20,000 deadweight tons or more, both U.S. and foreign, that call at U.S. ports. Included were rules to improve emergency steering standards on oil tankers. The proposal in this document is in response to the President's initiative.

2. As provided in the President's message, acceptance of technological improvements or alternatives which will result in equivalent pollution protection will be allowed in lieu of the equipment proposed in this notice. Procedures for acceptance of equivalents are currently contained in § 157.07 of Part 157. Section 157.07 is being revised in accordance with the President's commitment and is contained as a proposal in the "Proposed Rules for Tank Vessels Carrying Oil in Trade", which appears in this issue of the FEDERAL REGISTER.

3. Sufficient time is needed for existing and new vessels to comply with the equipment requirements in these propos-

als and to develop operating procedures with respect to using the equipment. Accordingly, the effective date proposed for the regulations is one year after they are published as final rules.

4. The proposed regulations would apply to all oil tankers of 20,000 deadweight tons or more that call at U.S. ports. The purpose of the proposed regulations is to reduce the probability of collision or grounding of oil tankers caused by a steering failure. A reduction in the probability of these accidents would reduce the risk of oil pollution as well as property damage, personal injury, and death that could result from these accidents.

A Coast Guard review of vessel casualty reports shows that 87 casualties involving failure of steering gear or a steering gear control system were reported between 1963 and 1976 on tank vessels of 20,000 deadweight tons and over. Forty of these casualties occurred on foreign vessels operating in U.S. navigable waters and the remaining casualties occurred on U.S. vessels. Though no deaths or pollution incidents were reported as a result of these casualties, vessel damage and other property damage occurred and the potential of pollution resulting from collision or grounding was present in each casualty. The potential for collision or grounding and subsequent pollution as a result of steering failure cannot be ignored when considering the increasing number of vessels being used to transport oil in bulk.

5. In addition to the proposals in this notice, the Coast Guard is preparing proposed amendments to Subchapter J of Title 46, Code of Federal Regulations, that in part contain provisions for steering gear power and control systems on new U.S. vessels. The proposals in Subchapter J are based upon the recommendations for steering gear power and control systems contained in International Maritime Consultative Organization (IMCO) Resolution A.325 (IX) entitled "Recommendations Concerning Regulations for Machinery and Electrical Installations in Passenger and Cargo Ships." IMCO Resolution A.325 (IX) was adopted by the IMCO Assembly on November 12, 1975.

6. The Coast Guard recognizes that problems of steering failure are not limited to oil tankers and in the future will be considering proposals to make the rules in this notice applicable to other tank vessels as well as to other types of vessels.

7. The proposals in this notice contain requirements for steering failure alarms, requirements for recovering rudder control after failure of a steering gear control system, and requirements for submitting steering control information to the Coast Guard and in certain cases for retaining the information on board the vessel.

8. Section 157.03(aa) contains a definition of "steering gear control system" as the term is used in the proposed regulations. This definition will also appear in the proposed amendments to Subchapter J of Title 46 that are currently being prepared. The definition would include a differential control unit as a component of a steering gear control system. Accordingly, on an existing vessel that utilizes a common differential control unit for its steering gear control systems, an additional differential control unit would be required in order to comply with the requirement in § 157.20(a), which requires the capability to recover rudder control after a failure in the steering gear control system in use. If the failure occurred in the differential control unit, a second unit would be needed in order to assure recovery of rudder control.

9. Proposed § 157.20 requires each oil tanker of 20,000 deadweight tons or more to have a steering failure alarm that would provide an audible and visible warning in the pilothouse in the event of loss of rudder control from the pilothouse. The 5 degree position variation and 30 second time period proposed in this requirement are necessary to prevent nuisance alarms caused by normal variation between the rudder position ordered and the actual rudder position.

Proposed § 157.20 applies only to a vessel that has a steering gear control system of the type required by 46 CFR 58.25–45(a). Section 58.25–45(a) of Title 46 in part requires that the arrangement of the steering gear control system and the steering gear components must provide full follow-up control of the rudder. If the vessel is steered by other means, constant use of a rudder angle indicator is necessary; or, if automatic steering gear control equipment is used, alarms are built into the equipment. In either event, early warning of a steering failure is provided when using these other means of steering without the need of an additional warning.

Proposed § 157.20 also requires the proposed alarm system to be separate from and independent of each steering gear control system on the vessel. The purpose of providing separate arrangement of the alarm system is to minimize the probability of simultaneous damage to both the alarm system and a steering gear control system from a source external to these systems. The alarm system must be independent of each steering gear control system so that failure of a component of a steering gear control system will not result in failure of the alarm.

10. Proposed § 157.20a requires that a means be provided to recover control of the rudder within 45 seconds after detection of a failure of the steering gear control system in use. The proposed 45 second time limit is needed to perform necessary operations to regain steering control such as transferring control switches, shifting hydraulic systems, and engaging a trick wheel.

Paragraph (b) of § 157.20a describes the measure of rudder control that must be recovered after failure of a steering gear control system. This capability is the same as the capability recommended in IMCO Resolution A.325 (IX) for operation of auxiliary steering gear.

In order to comply with proposed § 157.20a, equipment modifications to present steering gear control systems on vessels may be necessary though in many instances vessel operators could elect to provide manning of steering stations in lieu of making equipment modifications.

11. Proposed § 157.24b provides that in the case of a U.S. vessel information showing compliance with the proposed alarm and rudder control requirements must be submitted to the Coast Guard. The proposal also provides that in the case of a foreign vessel this information must be on board whenever the vessel operates in the navigable waters of the United States.

12. Proposed § 157.51 contains a requirement to follow the procedure in § 157.20a for recovering rudder control.

13. This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). Approximately 1800 oil tankers of 20,000 deadweight tons or more call at U.S. ports. The total costs for these vessels to comply with the requirements proposed in this notice during the first two years after they become effective are expected to be approximately $16,575,000. The estimated costs to U.S. vessels during the first two years are expected to be $820,000 to install steering failure alarm systems and $3,100,000 to comply with the requirement to recover steering control. The remaining costs would be associated with foreign vessels. The total, estimated costs assume that approximately 50 percent of the affected vessels would comply with the requirements by means of manning of steering stations other than the pilothouse.

Compliance with the proposed requirements should result in fewer groundings and collisions and in a corresponding reduction in probability of pollution, property damage, injury, and death.

In consideration of the foregoing, it is proposed to amend Part 157 of Title 33, Code of Federal Regulations, as follows:

1. Section 157.03(aa) is added to read as follows:

§ 157.03 Definitions.

* * * * *

(aa) "Steering gear control system" means a group of devices and cables forming a network that regulates and guides the operation of a steering gear.

2. Section 157.20 is added to read as follows:

§ 157.20 Steering failure alarm.

(a) This section applies to each vessel of 20,000 deadweight tons or more that has a steering gear control system of the type required by 46 CFR 58.25–45.

(b) Each vessel must have an alarm system that activates an alarm in the pilothouse whenever the actual rudder position differs for thirty or more seconds by more than five degrees from the rudder position selected by the helmsman.

(c) The alarm system must be separate from and independent of each steering gear control system, except that the alarm system may receive input from the steering wheel shaft.

(d) The alarm must be both audible and visual and must be of a type distinctive from each other alarm in the pilothouse.

NOTE.—This section becomes effective one year after the final regulations are published.

3. Section 157.20a is added to read as follows:

§ 157.20a Recovery of rudder control.

(a) Each vessel of 20,000 deadweight tons or more that calls at a U.S. port must have equipment and procedures to recover adequate control of the rudder within 45 seconds after a failure in the steering gear control system in use has been detected.

(b) A vessel meets the requirements in paragraph (a) of this section if it has either of the following combinations of procedures and equipment, although other combinations are possible:

(1) Two separate and independent steering gear control systems, associated equipment in the pilothouse for switching from one system to another, and procedures for operating the associated equipment.

(2) Procedures and associated equipment for manning steering gear spaces and emergency steering stations, as necessary, which ensure compliance with the requirement in paragraph (a) for recovering rudder control.

(c) For the purposes of this section, adequate control of the rudder is recovered if the vessel regains the capability to move the rudder from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds when the vessel is underway at its deepest draft and at one half of its maximum speed ahead or 7 knots, whichever is greater.

NOTE.—This section becomes effective one year after the final regulations are published.

4. Section 157.24b is added to read as follows:

§ 157.24b Submission of steering control information.

(a) The owner of a U.S. vessel of 20,000 deadweight tons or more shall submit the following information to the Coast Guard before the vessel operates in the navigable waters of the United States.

(1) Plans and specifications of the steering failure alarm system required by § 157.20 that contain enough detail to show compliance with that section.

(2) Plans, specifications, and procedures that contain enough detail to show compliance with the requirements in § 157.20a for regaining rudder control.

(b) The owner of each foreign vessel of 20,000 deadweight tons or more that calls at a U.S. port shall have on board the information described in paragraph (a) of this section whenever operating in the navigable waters of the United States.

NOTE.—This section becomes effective one year after the final regulations are published.

5. Section 157.51 is added to read as follows:

§ 157.51 Procedures for recovery of rudder control.

The master of a vessel of 20,000 deadweight tons or more that calls at a U.S. port must ensure that the procedures required by 157.20a for recovering rudder control are followed whenever the vessel is operating on the navigable waters of the United States.

(Title II, sec. 201, 86 Stat. 427, as amended (46 U.S.C. 391a); 49 CFR 1.46.)

NOTE.—The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A-107.

Dated: May 9, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

[FR Doc.77-13897 Filed 5-13-77;8:45 am]

[33 CFR Part 164]

[CGD 77-018]

VESSELS OF 10,000 GROSS TONS OR MORE

Proposed Additional Equipment

AGENCY: Coast Guard, DOT.

ACTION: Proposed rule.

SUMMARY: The Coast Guard is considering amending the Navigation Safety Regulations by adding a requirement for vessels of 10,000 gross tons or more, both U.S. and foreign vessels calling at United States ports, to have a second radar system and collision avoidance equipment. This amendment could implement that part of the President's March 17, 1977, message to Congress concerning a requirement for backup radar systems with collision avoidance equipment on all tankers over 20,000 deadweight tons (dwt) entering U.S. ports. The adoption of this amendment could result in tangible savings for industry and government including less vessel damage or loss, and lower investigation, search and rescue, and pollution clean-up costs.

DATES: 1. Comments must be received on or before September 1, 1977. 2. Public Hearings: The Coast Guard will hold public hearings on this proposal. The first hearing will be held commencing at 9:00 a.m. on June 16, 1977, and continuing until all commentors have been heard, in the Santa Fe Helix del Mar Room, Town and Country Hotel, 500 Hotel Circle North, San Diego, California 92138. The second will be held commencing at 9:00 a.m. on June 21, 1977, and continuing until all commentors have been heard, in Room 2230, Department of Transportation, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590.

ADDRESSES: Comments should be submitted to Commandant (G-CMC/81), U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street SW, Washington, D.C. Copies of studies referred to in this document are available for examination at the above address. A copy of the economic evaluation from which the economic summary in this document is taken is also available for examination at the above address.

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation. Nassif Building, 400 Seventh Street SW, Washington, D.C. 20590, 202-426-1477.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this rulemaking by submitting written data, views, or arguments. Written comments should include the docket number (CGD 77-016), the name and address of the person submitting the comments and the specific section of the proposal to which each comment is addressed. All comments received will be considered before final action is taken on this proposal. Interested persons are invited to attend the hearings and present oral or written statements on this proposal. It is requested that anyone desiring to make oral comments notify Captain Greiner at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. It is urged that a written summary or copy of the oral presentation be included with the request.

DRAFTING INFORMATION

The principal persons involved in drafting this proposal are Mr. Fred Schwer, Project Manager, Office of Marine Environment and Systems, and Mr. Stanley Colby, Project Attorney, Office of the Chief Counsel.

DISCUSSION OF THE PROPOSED REGULATIONS

An advance notice of proposed rulemaking entitled "Marine Traffic Requirements" was published in the FEDERAL REGISTER on June 28, 1974 (39 FR 24157). Among the many concepts advanced were proposals to require a second radar and an "anti collision device" on all vessels of more than 10,000 gross tons operating on the navigable waters of the U.S. Three commenters responded negatively regarding the second radar, primarily because of the retrofit costs. Four commenters responded negatively concerning the "anti collision device". They stated that: (1) the variety of such devices is so great as to make compliance difficult without "tighter" specifications; and (2) the collision avoidance capability of those devices is based on a presumed steady state of relative motion between vessels—a condition which rarely prevails on inland waters.

Navigation Safety Regulations were proposed in the May 6, 1976, issue of the FEDERAL REGISTER (41 FR 18766). The proposed requirement for a second marine radar system was retained despite the three negative comments. In the Coast Guard's view, loss of radar capability on a vessel of 10,000 gross tons or more imposes an unacceptable risk factor. Redundancy was deemed necessary for safety. However, the proposed requirement for a collision avoidance system was dropped in light of the comments mentioned above.

Fifteen commenters responded to the proposed second radar requirement. Five suggested that we further specify one 3-cm and one 10-cm radar. Four requested additional specifications, such as stabilization, PPI scope size, mode of presentation, and reflection plotter. Six comments were negative, again citing retrofit costs, limited usefulness in confined waters, and complaining of "useless" redundancy. The June 30, 1974, Advance Notice of Proposed Rulemaking proposed a requirement for both 3-cm and 10-cm radars. The Notice of Proposed Rulemaking of May 6, 1976, did not specify wavelengths. Generally speaking, the longer wavelength radar gives better adverse-weather performance because of its ability to penetrate water droplets. This advantage is gained at the cost of resolution. The signal of the shorter wavelength radar is attenuated more by moisture, but it gives better resolution in good weather. A requirement for a second radar could be based either on a perceived need for operational flexibility or on a need for redundancy. Operational flexibility, the Coast Guard feels, is best left to the vessel operator. The objective of this proposal is to provide, for certain vessels, a degree of radar redundancy and to provide for installation of a collision avoidance device on those vessels.

Seventeen commenters objected to the removal of the proposed requirement for a collision avoidance system. For the most part, the arguments advanced were not persuasive. However, the volume of comments suggested that further study was warranted.

Navigation Safety Regulations (33 CFR 164) were published in the Federal Register (42 FR 5956) as a final rule on January 31, 1977. The regulation did not include a requirement for collision avoidance systems, citing instead the planned issuance of this notice. The proposed requirement for a second radar system was not included pending resolution of the question of collision avoidance system.

On March 17, 1977, President Carter conveyed to Congress a message concerning oil spill risk. In it he directed several initiatives, including the development within 60 days of certain regulations, including "Backup radar systems, including collision avoidance equipment, on all tankers [over 20,000 deadweight tons]". This notice is directly responsive to that mandate. The 10,000 gross ton criteria listed in the advance and proposed notices of rulemaking is (as to tankers) roughly comparable to the 20,000 deadweight tons specified in the President's initiatives of March 17, 1977. As collisions between vessels are not related to their cargo or trade, it was determined that the proposed requirement for a second marine radar and a collision avoidance system should apply to all vessels of 10,000 gross tons or more.

As noted above, the May 6, 1976, notice proposed a requirement for a second marine radar system on all vessels of 10,000 gross tons or more. That requirement was withheld from the final rulemaking in anticipation of this proposal that a collision avoidance system be installed on those same vessels. Some collision avoidance systems have a radar display, actual or synthetic, integrated into the system. Others "add on" to the basic radar system. Delaying implementation of the second radar requirement until a decision is made on possible requirement of a collision avoidance system will allow the ship owner maximum flexibility in compliance.

A collision avoidance system is designed basically to aid mariners in identifying and resolving vessel relative motion problems. Just as a pocket calculator replaces paper and pencil in arithmetic computations, the basic collision avoidance system replaces manual maneuvering board solutions. Experience and good judgment are still the determining factors in safe navigation, with or without a collision avoidance system.

As has been pointed out by several commenters, electronic resolution of the threat posed by closing contacts is far faster than manual methods and does not distract the "conning" officer from other functions. Moreover, an electronic system can handle simultaneously more contacts than a manual system, thus to a point eliminating the problem of saturation by multiple contacts. Additionally, the system can be designed to give warning of closing contacts and to operate in a "trial maneuver" mode to predict the outcome of various responses. This "trial maneuver" capability is entirely dependent upon a steady state of relative motion between vessels. This predicted outcome can be negated by a change of target course or speed. Single or few contacts may be adequately handled by manual methods using a plotter. However, these manual methods do not favorably compare in speed of solution or convenience of data presentation with the computer assisted systems.

The U.S. Maritime Administration requires that collision avoidance systems be installed on all new construction tankers subsidized by that agency and recommends that they be installed on all subsidized vessels engaged in foreign trade. A study by the National Research Council, entitled "Human Error in Merchant Marine Safety", published in June 1976, recommends that the systems be required on oceangoing merchant vessels to reduce human error casualties stemming from lack of vigilance. A report of recent British investigations indicates that collision avoidance systems decrease workload and increase operator understanding of the situation around his ship. Conversely, a recent study by Operations Research, Inc., of Silver Spring, Md., commissioned by the Coast Guard, concludes in part that requiring the systems would not appear to be cost-beneficial in preventing vessel casualties on the navigable waters of the U.S.

The Coast Guard has determined that a collision avoidance system in each vessel of 10,000 gross tons or more could contribute positively to the safety of that vessel and to the protection of the environment, particularly in waters in which vessels are not closely confined and are not making repeated course changes dictated by geographic or other conditions.

Economic impact. This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). It is estimated that 2,000 foreign and 400 U.S. vessels might be affected if the proposal is adopted. Basic collision avoidance systems range in price from $90,000 to $150,000. At an average cost of $120,000 per vessel, installed, the projected first year cost to the U.S. shipping industry would be $43,200,000 and the impact on the U.S. economy would approximate $76,800,000. Assuming a 10 year amortization period, the second through tenth year impacts would be about $28,800,000 per year. Impact on the U.S. economy would total $307,200,000 over the 10 year period.

The benefits from having this equipment could result in tangible savings, including less vessel damage or loss, less post-vessel-casualty costs, including investigation costs, and search and rescue costs, and less pollution clean up costs. Significant intangible benefits could accrue, including less loss of life or injury and less pollution and resulting harm to the environment.

If adopted, the final regulations would contain a specific effective date on which collision avoidance systems would be required to be onboard vessels of 10,000 gross tons or more while operating on the navigable waters of the U.S. This effective date would follow by one year the publication of the final regulations in order to allow sufficient time for the procurement and installation of the required equipment.

Accordingly, it is proposed to add § 164.37, to Part 164, published in the January 31, 1977, issue of the Federal Register (42 FR 5969), to read as follows:

§ 164.37 Additional Equipment: vessels of 10,000 gross tons or more.

Each vessel of 10,000 gross tons or more must have, in addition to the radar system required in § 164.35(a), a second marine radar system with a computer aided collision avoidance system meeting the specification entitled "Performance Specification For a Computer Aided Collision Avoidance Sytem For Merchant Ships", published by the Radio Technical Commission for Marine Services (RTCM Paper 171-76/EC 205/SC 65-226, Revised January 19, 1977).

NOTE.—Performance Specification For a Computer Aided Collision Avoidance System For Merchant Ships is published in Appendix A for reader's convenience.

(Titles I and II, 86 Stat. 426, 427 (33 USC 1224; 46 USC 391a); 40 CFR 1.46(n)(4)).

NOTE.—The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A-107.

O. W. SILER,
Admiral, U.S. Coast Guard, Commandant.

MAY 9, 1977.

APPENDIX A—PERFORMANCE SPECIFICATION FOR COMPUTER AIDED COLLISION AVOIDANCE SYSTEM FOR MERCHANT SHIPS

NOTE: Published by the Radio Technical Commission for Marine Services (RTCM), under the Federal Communications Commission, as RTCM Paper 171-76/EC-205/SC 65-226 (revised as of January 19, 1977 and superseding Paper 145-78/SC 65-220).

1. Purpose. The purpose of this document is to specify minimum performance standards for a computer-aided collision avoidance system to assist in correctly interpreting radar data in a manner that will help avoid collisions.

2. Scope. This document provides specifications for the capabilities, data presentation, warning features and necessary inputs of a shipboard computer-aided collision avoidance system, suitable for use on board merchant ships.

3. Inputs to the system. The system shall be capable of accepting signals from the ship's radar(s), gyro compass, speed log (or equivalent speed input), and from a manual speed input. The system shall clearly indicate the speed source selected. The system, whether operating normally or having failed, must not introduce any spurious signals or otherwise degrade the performance of the equipments providing inputs.

4. PPI display. The effective size of the PPI display shall be equivalent to or greater than that provided by a 16" diameter CRT.

The display may be separate or it may be a ship's radar PPI with the collision avoidance data superimposed.

The system shall have both true and relative[1] presentation modes. As a minimum, a capability for relative motion display shall be provided. Projected target track lines should be selectable in either true or relative motion.[2] In addition, the system may provide for true motion. If true motion is provided, the operator shall be able to select for his display either true or relative motion.

Computer generated data for each displayed target shall be in the form of a vector or line indicating target true course or relative motion, with a length proportional to speed, giving both present and extrapolated future positions. The capability to cancel the line or vector presentation of non-threatening targets shall be provided.

The display presentation may be entirely synthetic or synthetics superimposed on the radar video. If the display is superimposed on radar video, means shall be provided to independently adjust the brilliance of the synthetic presentation and of the radar video, including their complete elimination.

Own ship's heading indicator shall be presented on the display in all modes. The indicator shall appear on the display either as a heading line or as a heading marker on the periphery, and shall be accurate within 0.6 degree exclusive of sensor errors. Provision shall be made for adjusting its brilliance and for momentary extinguishing of the heading line. A bearing ring which may be movable shall also be provided.

The system shall be capable of simultaneously representing fixed targets, moving targets and land masses.

The equipment should be provided with at least four range scales, the smallest of which is not more than 3 nautical miles (nm) and the greatest of which is not less than 24 nm.

The brilliance of the display shall be adjustable to the level where it is sufficiently bright to be observed in the normal ambient sunlight expected in a wheelhouse, without the use of a hood, except that a shield may be provided to block direct rays of the sun. The display shall be usable without destroying night vision on a darkened bridge. To enable night vision protection, the display phosphor shall include wavelengths within the band 600 to 750 nanometers, in order to permit the use, where desired, of a red filter. A red phosphor that emits solely within the 600 to 760 nanometer band is an acceptable alternative to the red filter.

For targets having a range of less than 10 miles, within one minute after the moment that:

(a) The target appears on the radar display and is within the acquisition range of the collision avoidance system (for automatic acquisition systems), or

(b) The operator initiates acquisition (for manual acquisition systems), the system should present, as a minimum, an indication of target motion trend. Within 3 minutes a fully accurate target course and speed should be presented on the display and/or in alphanumeric form, assuming the associated radar has a scanning rate of at least once in three seconds. If more than two targets on the same bearing are required, the above presentation times may be degraded. This degradation factor must be restricted to a maximum of two times the above limits for a quantity of four targets on the same bearing and three times for a quantity of six targets on the same bearing, etc.

5. Target acquisition.—Target acquisition may be manual or automatic. The system shall be able to track at least (20) targets automatically. The tracked targets shall be marked on the display by distinct tracking symbols.

6. Warning alarms. For a manual acquisition system, audio and visual alarms shall be initiated by any target closing to a preset minimum range, or guard ring. After target acquisition, similar alarms shall be initiated in all systems by any target that is predicted to close to less than a preset minimum range. The target causing the alarms to be initiated shall be clearly identifiable on the display.

For both manual and automatic acquisition systems, means shall be provided to silence the audio alarm for a given threat but the alarm shall resound upon a subsequent threat. A visual indication shall continue until all threats have been eliminated.

7. Alpha-numeric information presentation. For any acquired target, where alphanumeric information is provided, the following shall, as a minimum, be included:

Present range to the target;
Present bearing of the target;
Predicted target range at the closest point of approach (CPA);
Predicted time to CPA (TCPA);
Present course of the target;
Present speed of the target.

This information may be presented on the system display or on a separate display device.

When steady-state tracking conditions have been obtained for a non-maneuvering target, the computational errors introduced by the collision avoidance device shall be no greater, for the parameter under consideration, than the unit value of the least significant digit displayed of that parameter.

8. Accuracy. Operationally the equipment is required to present data on a target of interest with adequate accuracy in a reasonable time. Equipment which can satisfy the following test condition will be deemed to meet this requirement.

For a vessel on a constant collision course at a range of 4 nm, with a relative speed of 20 knots, the equipment shall determine the relative speed to within 10 percent within 3 minutes from the time of acquisition. Further, for a vessel passing 1 nm ahead with a relative speed of 10 knots and a constant direction of relative motion (DRM) of 090 the equipment shall determine its DRM to within 3 degrees in the same time period.

The above requirements pertain to computational accuracy of the system and do not encompass the inaccuracies of the input sensors.

9. Trial maneuver. The system is to provide necessary information regarding possible maneuvers in order to avoid collisions. The system shall have the capability of simulating possible future situations and presenting such situations on the display. The trial maneuver shall indicate the results of a simulated course change. It may indicate in addition, the result of a simulated speed change or of a speed change in conjunction with a course change. The simulation shall be initiated by the depression either of a spring-loaded switch or of a function key with a positive identification on the display. The indication of the simulation shall be deleted and the display shall revert to normal operation either by the release of the spring-loaded switch, or after the lapse of a present time not to exceed one minute in the case of the function key. During a simulation the system shall activate warning alarms related to the real traffic situation.

10. Environmental conditions. The Collision Avoidance System, including all components shall be capable of operating in the environment normally found on the bridge and/or associated areas. Requirements as specified in Appendix A shall be used as the minimum required to meet the intent of this specification.

11. Compass-Safe Distances. System units must operate with no effect on the standard magnetic or steering magnetic compass when positioned no closer than the manufacturers specified "Compass Safe Distance".

12 Power supply. The system shall be capable of normal operation when encountering the following variations:

	Percent
AC variations from nameplate voltage	±10
Variations from nameplate frequency	±6
DC variations from nameplate voltage:	
110-250V	−20+10
24-32V	−10+25

The equipment shall have impulse voltage transient protection from pulse transients with amplitudes of ±1200 peak volts, rise times of 2 usec to 10 usec, and durations up to 20 usec.

13. Failure alarms. Suitable visual and audio alarms shall be provided to alert the operator in the event of overall system failure, loss of incoming sensor signals (radar, gyro and speed log) or any other failure detected by the system's self-test capabilities. These alarms shall be in the form of flashing lights, repeating sound signals or some other

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[1] A course-up presentation is an acceptable variation of the relative presentation

[2] For those Collision Avoidance Systems utilizing a combination vector/predicted area of danger (PAD) assessment presentation, projected target track lines may be either true or relative.

method to alert the watch officer when the equipment is unattended. Provision shall be made to silence the audio alarm but visual signals shall remain until the failure is corrected, reset by the operator, or the system shut down.

14. Recording capability. Continuous recording capability of not less than one half hour, of the collision avoidance data to reproduce the display(s) may be provided. Such recording shall be capable of being started and stopped "at will" at the display. Provision shall be made to save the data, when desired, for playback through a suitable device.

[FR Doc.77-13894 Filed 5-13-77;8:45 am]

[CGD 77-057]

[46 CFR Parts 30, 32]

INERT GAS SYSTEM

Proposed Amendment

AGENCY: Coast Guard, DOT.

ACTION: Proposed rule.

SUMMARY: This document proposes to extend the inerting system requirements from tank vessels of 100,000 deadweight tons (dwt) or more to tank vessels of 20,000 dwt or more. This proposal is in response to that part of the President's March 17, 1977, message to Congress concerning a requirement for inert gas systems on all U.S. and foreign flag oil tankers of 20,000 dwt calling at American ports. If the systems are installed, there should be a reduction in the number of in-tank explosions on board tankers.

DATES: 1. Comments must be received on or before:

2. Public Hearings: The Coast Guard will hold two public hearings on this proposal. The first will be held commencing at 9:00 a.m. on June 16, 1977, and continuing until all commenters haye been heard, in the Santa Fe Helix del Mar Room, Town and Country Hotel, 500 Hotel Circle North, San Diego, California 92138. The second will be held commencing at 9:00 a.m. on June 21, 1977, and continuing until all commenters have been heard, in Room 2230, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

ADDRESSES: Comments should be submitted to the Commandant (G-CMC/81), U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. A copy of the economic evaluation from which the economic summary in this document is taken is available for examination at the above address.

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-1477).

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rulemaking by submitting written views, data, or arguments. Each person submitting a written comment should include his name and address, identify this notice (CGD 77-057), and give the reason for the comment. This proposal may be changed in light of the comments received. All comments received will be considered before final action is taken on this proposal. Copies of all written comments received will be available for examination by interested persons.

Interested persons are invited to attend the hearing and present oral or written statements on this proposal. It is requested that anyone desiring to make comments notify Captain Greiner at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. It is urged that a written summary or copy of the oral presentation be included with the request.

Drafting Information

The principal persons involved in drafting this proposal are: Mr. Daniel F. Sheehan, Project Manager, Office of Merchant Marine Safety, and Mr. Stanley Colby, Project Attorney, Office of the Chief Counsel.

Discussion of Proposal

On January 26, 1976, the Coast Guard published regulations in the Federal Register (41 FR 3838) concerning tank vessel fire protection that incorporated the substance of IMCO Resolution A.271 (VIII), adopted by the Assembly of the Inter-Governmental Maritime Consultative Organization on November 20, 1973. These regulations contain provisions that increase the overall level of safety of tank vessels. One of the provisions of this rulemaking was the requirement that inert gas systems be fitted on new tank vessels of 100,000 dwt or more and combination carriers of 50,000 dwt or more. In the preamble of that document, the Coast Guard made a commitment to reexamine the international recommendations concerning the implementation limits for inert gas systems. That reexamination is reflected in this proposal.

In order to detail the rationale for this proposal, it is necessary to review the history and development of the original decision, the intervening events which have influenced that decision, and the action taken in the international forum.

In 1968, a working group was formed as part of the IMCO Subcommittee on Fire Protection. The purpose of this group was to develop a series of international recommendations to improve tank vessel fire safety. This effort was initiated by the United States through both formal and informal channels within the IMCO forum. The work was divided into two primary areas of concern: protection for the cargo tank area; and protection for the accommodation and service spaces.

After considerable debate, the working group accepted the premise that the accommodations and service spaces should utilize the concept of non-combustible construction, a practice successfully employed in U.S.-flag tank vessels for many years.

During the deliberations concerning the recommendations for cargo tank protection, three very large crude carriers (VLCC's), the *Mactra*, *Marpessa*, and the *Hong Haakong* suffered tank explosions, adding a new dimension to the considerations. The similarity between the casualties led several countries to propose requirements related only to the potential problem of in-tank fires and explosions. U.S. requirements protected against in-tank explosions by preventive techniques and required the fitting of a deck foam firefighting system to mitigate on deck or in-tank fires. This position was the basis for the deliberations.

Owners, operators, and assurers were deeply concerned about the unexplained loss of the VLCC's. This concern resulted in a collective research effort which attempted to determine the causative factors involved in the explosions. The area of greatest concentration centered around tank cleaning methods and techniques. The investigation produced significant results in that tank cleaning methods were found to cause an increase in static electricity generation within the tank itself, thereby serving as a potential source of ignition.

As a result of the inability to determine the exact causes of the problem, several steps were taken to attempt to minimize the possibility of reccurence. On a voluntary basis, owners and eperators were invited to utilize the International Chamber of Shipping, "Guidelines for Tank Washing," which were operational steps taken to minimize static electricity generation. The IMCO Assembly proposed a convention amendment (IMCO Res. A.271 (VIII)), "Fire Safety Measures for New Tank Vessels," which until adopted was issued as an interim recommendation. Emphasizing its high priority, all countries were urged by the Assembly to bring the recommendation into force on July 1, 1974 on a voluntary basis. In the intervening time period, an additional Assembly recommendation (IMCO Res. A.326 (IX)), was developed which requires cargo tank protection for vessels that was not as stringent as the previous document. The new recommendation required the fitting of a deck foam system with an augmented foam storage supply if an inert gas system was not fitted. During subsequent deliberations, numerous proposals were presented to require the fitting of inert gas systems for vessels of different sizes under IMCO Res. A.271 (VIII). Proposals ranged from a different tonnage cutoff point to a proposal that concerned the capacity of fixed tank vessel washing machines.

As a result of the explosions aboard the VLCC's, the use of inert gas systems on these vessels increased significantly throughout the world. During this time period, detailed experience was gained concerning the operation, maintenance and reliability of the system. This information indicated that—

1. There were certain hazards associated with the fitting and use of inert gas systems; and

2. Their reliability had a direct link to the maintenance of the system.

It was found that the inert gas systems (IGS) which were designed to provide protection during the hazardous tank washing process were, in fact, generators of static electricity themselves. In fact, the IGS systems were capable of generating more static electricity than the tank washing machines. In the second instance, the Norwegian Classification Society, Det Norske Veritas determined that approximately 70% of the systems inspected had major maintenance problems that could have seriously affected their use and reliability. Detailed maintenance and operation requirements for this type of system will be the subject of a future proposal in the FEDERAL REGISTER.

After the publication of the substance of IMCO Res. A.271 (VIII) into Subpart 32.53, the problem of tank vessel explosions caused by external sources of ignition was examined in further detail by the Coast Guard which noted that normal tank vessel operation would permit the tank of a vessel to be within the explosive range during loading, transit, and off loading in some cases.

The fact that this condition exists or can exist is known by both designers and operators. In order to prevent ignition of the flammable atmosphere, a U.S.-flag tank vessel must meet specific design and operational requirements:

1. The cargo tank block is classed as a hazardous area and sources of ignition are controlled by mandating explosion proof equipment, prohibition of smoking, and no open flaming devices.

2. Flame screens are required to be fitted in openings into cargo storage tanks and specific operational procedures are prescribed to protect the vessel from ignition sources.

3. Vents are required to be equipped with pressure vacuum valves for Grades A–C cargoes.

4. Cargo discharge and loading is required to be conducted under the supervision of ships' officers and certificated tankermen.

All of these provisions are directed at minimizing the potential for tank vessel fire and explosion. The casualties summarized in the following paragraphs indicate that casualties will occur despite the required safety systems.

For a variety of reasons design and operational requirements have not proven completely successful. The *Corinthos* and *Elias* were conventional tank vessels. For fire safety in the cargo area, they depended basically on identification of, and protection from, potential ignition sources. This protection, however, was not sufficiently comprehensive and when an ignition source, which was not provided for, ignited flammable vapors in the cargo tank, an explosion was initiated. In each case, this explosion then progressed unchecked through the entire cargo tank area. Due to the fact that each vessel was unloading or had just completed oil loading, some portion of the vapor space of all cargo tanks was in the flammable range and was, therefore, vulnerable to explosion, when an ignition source developed.

LOSS OF THE TANKER "CORINTHOS"

On January 31, 1975, the U.S.-flag chemical tanker *Edgar M. Queeny* struck the outboard side of the moored 54,000 dwt Liberian flag crude carrier *Corinthos*. A low order explosion immediately resulted within the breached cargo tank and was followed within seconds by a series of increasingly more violent explosions. The explosions spread from tank to tank and the entire deck area of *Corinthos* was soon engulfed in flames and as a result, the vessel broke and sank alongside the British Petroleum dock No. 1, Marcus Hook, PA. Twenty-six persons were killed. Intense firefighting efforts were required for at least 12 hours after the first explosion.

LOSS OF THE TANKER "ELIAS"

On April 9, 1974, the 30,000 dwt Greek flag tanker *Elias* suffered massive multiple explosions, burned, and sank in the Delaware River alongside the Atlantic Richfield Oil Terminal, Fort Mifflin, PA. At the time of accident, the vessel was in the last stages of off loading a cargo of crude oil from the Bachaquero field in Venzuela. A total of 13 persons aboard the vessel (including all principals involved in cargo transfer) were killed. The hull of the vessel came to rest in an upright position on the river bottom. The ensuing fire was fought from the shore by units of the Philadelphia Fire Department and from the water side by units of the U.S. Navy, U.S. Coast Guard, and commercial tugs. Over 30 firefighting and support units were involved at the height of the fire.

In both cases the exact ignition source remains unknown. An ignition source somehow reached the flammable vapors within the cargo tanks. The explosion then progressed through the other cargo tanks on the vessel. Total losses will probably exceed $25,000,000.

TANKERS 20,000 DWT OR MORE WORLDWIDE CASUALTIES

In the period between 1950 and 1973, there were an estimated 515 fires and explosions on board vessels that occurred either in the cargo tanks or outside the tanks. This figure excludes fires and explosions in the engine spaces. Of that 515, approximately 243 (47%) occurred inside the cargo tanks. Those vessels that were 20,000 dwt or more had over 50% of the intank fires and explosions. The following table is for the period 1950–1973.

	Total number	Percentage
Vessel fires and explosions	515	100
Cargo tank fire and explosions	243	47
Casualties on tankers 20,000 dwt or more	130	[illegible]

BENEFITS ACCRUED

As indicated in a preceding paragraph, the requirement for inert gas systems, as recommended in IMCO Resolution A.271 (VIII), developed as a result of the necessity to protect tank vessels of certain sizes during tank cleaning operations. This represents a relatively small portion of a tank vessel's life cycle. The benefits derived from inert gas systems are not limited to this time period. For example:

1. A tank which is inerted cannot sustain an intank explosion if the boundaries of the tank are intact. This provides assurance against intank explosions during other periods when the vessel is not undergoing tank cleaning.

2. Good quality inert gas reduces internal tank corrosion.

3. Higher discharge rates may be obtained by utilizing inert gas system pressure to aid the cargo pumps, thereby reducing tank vessel turn around time.

BACKGROUND OF PROPOSED AMENDMENTS

The President's March 17, 1977 message to Congress included direction that certain ship construction and equipment standards be reformed. Included in the direction was instructions to the Secretary of Transportation to develop new rules within 60 days for inert gas systems on all oil tankers of 20,000 dwt or more, U.S. and foreign, that call at American ports. The proposal in this document is in response to the President's instructions.

Subpart 32.53 currently applies to each tankship of 100,000 dwt or more (metric) and each combination carrier of 50,000 dwt or more (metric) that has a keel laying date after December 31, 1974. The following are excepted from the subpart.

1. Vessels that carry Grade E cargo at a temperature that is 5° C (9° F) or more below its flashpoint or that carry only liquefied gas cargo.

2. Foreign flag tankships of a nation signatory to the International Convention for the Safety of Life at Sea, 1960 that have on board a current valid Safety Equipment Certificate.

It is proposed to retain the substance of this applicability but withdraw the exception to foreign tankships having on board a current valid Safety Equipment Certificate.

U.S.-flag vessels required to fit inert gas systems under 46 CFR Subpart 32.53, which was effective on February 26, 1976 (published in the January 26, 1976 FEDERAL REGISTER (41 FR 3838)) would not be allowed to extend the application of the subpart to the new effective date of this proposed amendment.

In addition, it is proposed to add to the applicability of the subpart tankships and combination carriers of 20,000 dwt or more. In order to allow orderly implementation by industry, it is proposed that those U.S. and foreign tankships or combination carriers that are constructed or converted under a contract awarded before [a date would be inserted that is 6 months after publication of the rule] would have to comply with the inert gas systems requirements within five years after the effective date of the amendment. U.S. tankships or combination carriers contracted for after [a date would be inserted that is 6 months after publication of the rule] would be required to fit an inert gas system on or after the effective date of the amendment. Foreign tankships or combination carriers contracted for after [a date would be inserted that is 6 months after publication of the rule] would have to comply with the inert gas system requirements within five years after the effective date of the amendment.

Since the proposal applies to foreign vessels, in addition to the U.S. vessels currently being regulated, the terms flammable or combustible cargo are used in Subpart 32.53 in lieu of grade classifications to aid comprehension by any reader not familiar with the United States classification of oil cargoes.

Proposed Exceptions. The President's message stated that all oil tankers would be required to be fitted with the provisions outlined in his message. In this proposal, the present exception to the requirement for fitting of an inert gas system on a tankship if it carries Grade E cargoes is continued since in context the President's direction was to extend applicability to smaller vessels rather than to bring low risks substances under regulations. Grade E cargo is by definition a high flashpoint cargo of relatively low risk. Both the international recommendation, IMCO Res. A.271 (VIII), and Coast Guard regulations in 46 CFR 32.53, recognize this and incorporate an exception for high flashpoint liquids.

This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200).

The analysis shows that approximately 1000 foreign flag and 250 U.S.-flag tank vessels would be affected by the requirement for the fitting of inert gas systems. The projected costs of the requirements to the U.S. consumer over a 9 year period is estimated at one billion seven hundred million dollars.

The expected benefit of the requirement is a reduction in the number of in-tank explosions. These explosions in the past have not only endangered the ship and its crew but port facilities and related waterways.

In accordance with the preceding, it is proposed to amend Subchapter D of Title 46, Code of Federal Regulations, as follows:

§ 30.01–5 [Amended]

1. By amending § 30.01–5(e)(1) of Subpart 30.01 by striking the words "and the safety and cargo handling requirements in Subparts 35.30 and 35.35 of this subchapter" and inserting "Subpart 32.53, Subpart 35.30, and Subpart 35.35 of this subchapter" in place thereof.

2. By revising § 32.53–1 of Subpart 32.53 to read as follows:

§ 32.53–1 Application—T/All.

(a) Except as provided in paragraph (b) of this section, this Subpart applies to tankships or combination carriers of 20,000 dwt tons or more as follows:

(1) Each U.S. Flag tankship that is certificated to carry Grades A, B, C, and D liquids.

(2) Each foreign flag tank vessel engaged in the trade of carrying flammable or combustible liquids to or from a U.S. port, or place, or any such vessel destined from one port or place in the United States to another port or place in the United States.

(b) This Subpart does not apply to vessels designed to carry only—

(1) Liquefied gas cargo; or

(2) Cargo that has a flashpoint of 65.5°C (150°F) or higher by an open cup test (Grade E).

NOTE.—(1) A U.S. tankship of 100,000 dwt tons or more or a U.S. combination carrier of 50,000 dwt tons or more, with a keel laying date on or after January 1, 1975, must comply with Subpart 32.53 after February 25, 1976.

(2) U.S. and foreign flag vessels under § 32.53–1, except those vessels described in note 1, that are constructed or converted under a contract awarded before the effective date of the rule must comply with Subpart 32.53 within 60 months after the effective date of the rule.

(3) A foreign flag vessel under § 32.53–1 that is constructed or converted under a contract awarded after the effective date of rule must comply with Subpart 32.53 within 60 months after the effective date of the rule.

(4) A U.S. vessel under § 32.53–1 that is constructed or converted under a contract awarded after the effective date of the rule must comply with Subpart 32.53 at the time of building or conversion.

(Sec. 201, 88 Stat. 427, as amended (46 U.S.C. 391a); 49 CFR 1.46(n)(4)).

NOTE.—The Coast Guard has determined that this document contains a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A–107 and certifies that an Economic Impact Statement has been prepared.

Dated: May 9, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

[FR Doc.77–13695 Filed 5–13–77;8:45 am]

APPENDIX 2

A. STATISTICAL INFORMATION SUPPLIED BY THE GENERAL ACCOUNTING OFFICE

ACTIVITY IN OIL POLLUTION FUND
ADMINISTERED BY THE U.S. COAST GUARD
Fiscal years 1971 through 1976

Month	FY 71		FY 72		FY 73		FY 74		FY 75		FY 76		Transition Quarter	
	Obligations	Collections & Appor.	Obligations	Collections	Obligations	Collections	Obligations	Collections	Obligations	Collections	Obligations	Collections	Obligations	Collections
July			b/	b/	355,000	20,165	478,915	116,103	581,833	148,366	576,985	184,805	5,078,144	248,292
August			34,953	9,858	1,052,033	21,550	497,391	157,944	397,292	133,550	714,047	172,705	2,547,210	188,091
September			9,204	9,200	1,235,060	9,861	99,076	117,971	111,210	173,659	515,209	190,680	859,974	257,723
October			31,461	24,145	429,575	45,299	158,484	191,265	302,227	166,404	668,710	257,755		
November			51,134	13,150	693,040	32,283	(47,318)	175,189	294,402	140,021	8,105	173,938		
December			(1,404)	16,473	386,943	(249,532)	234,870	155,634	337,479	141,469	463,100	10,139,342c/		
January			23,303	50,267	965,599	67,433	216,993	238,765	334,353	172,763	873,978	148,548		
February			10,813	41,723	909,200	61,250	565,377	293,804	2,277,627	166,829	706,152	224,920		
March	2,647	20,000,000a/	51,588	54,669	326,633	132,919	338,793	252,360	1,513,450	180,054	197,761	808,668		
April	10,717	30,050	(3,682)	23,655	704,423	95,527	515,869	316,075	1,220,493	180,240	217,280	149,257		
May	92,326	12,025	60,414	29,969	1,317,350	126,226	429,125	227,846	361,530	166,617	707,535	248,084		
June	182,564	5,600	624,508	38,427	1,064,484	272,000	942,389	167,785	242,611	229,630	1,184,633	257,980		
Total	288,254	20,047,675	892,292	311,536	9,439,340	634,981	4,429,964	2,410,741	7,974,507	1,999,602	6,833,495	12,956,682	8,485,328	694,106

a/ Original appropriation.

b/ Included with August.

c/ Includes $10,000,000 appropraition.

Summary of Oil Pollution Fund Charges, Assessments, and Reimbursements
U.S. Coast Guard
Fiscal years 1971 - 1976

Fiscal year	Fund charges by year of incident	Net assessed/billed for same incidents	Net collected for same incidents
1971	$ 286,465	$ 17,867	$ 5,376
1972	3,677,627	442,190	293,373
1973	6,579,910	4,768,760	487,918
1974	4,432,142	2,536,880	447,360
1975	7,520,363	3,692,616	556,570
1976	14,120,080	1,676,607	115,595
Total	$ 36,616,587	$13,134,920	$1,906,192
Outstanding obligations [a/]	1,233,085		
Total	$ 37,849,672		

[a/] Outstanding obligations in the Third, Seventh, and Eighth Districts not included in detailed schedules.

Summary of Oil Pollution Fund Charges, Assessments, and Reimbursements
Coast Guard Third District
Fiscal years 1971 - 1976

Fiscal year	Fund charges by year of incident	Net assessed/billed for same incidents	Net collected for same incidents
1971	-----------------	-----(note a)-----	-----------------
1972	$ 3,161,743	(note a)-----	-----------------
1973	310,375	$ 198,351	$ 17,525
1974	2,191,895	750,793	112,244
1975	3,053,017	278,408	3,352
1976	1,169,411	86,488	5,989
Total	$ 9,886,441	$ 1,314,040	$ 139,110

a/ Detailed records not readily available.

Summary of Oil Pollution Fund Charges, Assessments, and Reimbursements
Coast Guard Seventh District
Fiscal years 1971 - 1976

Fiscal year	Fund charges by year of incident	Net assessed/billed for same incidents	Net collected for same incidents
1971	(note a)		
1972	(note a)		
1973	$ 613,073	$ 679,537	$ 474
1974	66,745	31,801	21,148
1975	101,851	104,889	84,331
1976	1,005,976	372,101	9,954
Total	$1,787,645	$ 1,188,328	$115,907

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a/ Detailed records not readily available.

Summary of Oil Pollution Fund Charges, Assessments, and Reimbursements
Coast Guard Eighth District
Fiscal years 1971 - 1976

FY	Fund charges by year of incident	Net assessed/billed for same incidents	Net collected for same incidents
1971	$ 9,882	$ 9,754	$ 1,916
1972	57,678	44,466	(note a)
1973	1,735,735	538,851	30,468
1974	967,119	1,147,559	113,421
1975	2,591,313	2,736,202	344,486
1976	422,122	218,311	39,767
Total	$5,783,849	$ 4,695,143	$ 530,058

a/ Detailed records not readily available.

Summary of Oil Pollution Fund Charges, Assessments, and Reimbursements
Coast Guard Nine Districts (note a)
Fiscal years 1971 - 1976

FY	Fund charges by year of incident (note b)	Net assessed/billed for same incidents	Net collected for same incidents
1971	$ 276,583	$ 8,113	$ 3,460
1972	446,979	397,724	293,373
1973	3,920,727	3,352,021	439,451
1974	1,206,383	606,727	200,547
1975	1,774,182	573,117	124,401
1976	11,522,571	999,707	59,885
Total	$ 19,147,425	$ 5,937,409	$ 1,121,117

a/ All Coast Guard districts except the Third, Seventh, and Eighth.

b/ Includes outstanding obligations.

Summary of Fines and Penalties Assessed and Collected
U.S. Coast Guard
Fiscal years 1971 - 1976

Fiscal year	Net fines and penalties assessed			Fines penalties collected			Percent of assessments collected	
	Number	Amount	Average	Number	Amount	Average	Number	Amount
1971	2	$ 275	$ 138	2	$ 275	$ 138	100%	100%
1972	223	71,274	320	215	71,024	330	96	100
1973	1,779	1,164,043	654	1,520	913,853	601	85	79
1974	4,220	2,883,676	683	3,776	2,195,221	581	89	76
1975	5,012	2,795,014	558	4,092	1,970,769	482	82	71
1976	6,257	3,222,744	515	5,274	$2,160,938	410	84	67
Total	17,493	$10,137,026	$ 579	14,879	$7,312,080	$ 491	85	72

Summary of Fines and Penalties Assessed and Collected
Coast Guard Third District
Fiscal years 1971 - 1976

Fiscal year	Net fines and penalties assessed			Fines penalties collected			Percent of assessments collected	
	Number	Amount	Average	Number	Amount	Average	Number	Amount
1971	(note a)							
1972	(note a)							
1973	320	$ 221,100	$ 691	315	$ 203,451	$ 646	98%	92%
1974	548	425,010	776	489	320,896	656	89	76
1975	606	410,295	677	538	326,788	607	89	80
1976	519	227,050	437	447	183,150	410	86	81
Total	1,993	$ 1,283,455	644	1,789	$ 1,034,285	578	90	81

a/ Detailed records not readily available.

General note: Of those cases referred to the Department of Justice for collection, the average length of time between Coast Guard assessment and referral to the Department of Justice was 240 days.

Summary of Fines and Penalties Assessed and Collected
Coast Guard Seventh District
Fiscal years 1971 - 1976

Fiscal year	Net fines and penalties assessed			Fines penalties collected			Percent of assessments collected	
	Number	Amount	Average	Number	Amount	Average	Number	Amount
1971	(note a)							
1972	(note a)							
1973	86	$ 78,400	$ 912	86	$ 78,400	$ 912	100%	100%
1974	321	439,466	1,369	303	319,780	1,055	94	73
1975	566	494,410	874	533	398,005	747	94	81
1976	611	343,890	563	547	243,850	446	90	71
Total	1,584	$1,356,166	856	1,469	$1,040,035	708	93	77

a/ Detailed records not readily available.

General Note: Of those cases referred to the Department of Justice for collection, the average length of time between Coast Guard assessment and referral to the Department of Justice was 273 days.

Summary of Fines and Penalties Assessed and Collected
Coast Guard Eighth District
Fiscal years 1971 - 1976

Fiscal year	Net fines and penalties assessed			Fines penalties collected			Percent of assessments collected	
	Number	Amount	Average	Number	Amount	Average	Number	Amount
1971				(note a)				
1972				(note a)				
1973	115	$ 252,500	$ 2,196	95	$ 151,600	$ 1,596	83%	60%
1974	663	951,175	1,435	531	556,930	1,049	80	59
1975	744	1,035,358	1,392	547	481,045	879	74	46
1976	1,392	1,335,828	960	1,071	661,653	618	77	50
Total	2,914	$3,574,861	$ 1,227	2,244	$1,851,228	$ 825	77	52

a/ Prior to January 1973, fines and penalties resulting from violations of the 1899 Refuse Act were erroneously credited to the pollution fund.

General note: Of those cases referred to the Department of Justice for collection, the average length of time between Coast Guard assessment and referral to the Department of Justice was 294 days.

Summary of Fines and Penalties Assessed and Collected
Nine Coast Guard Districts (note a)
Fiscal yesrs 1971 - 1976

Fiscal year	Net fines and penalties assessed			Fines penalties collected			Percent of assessments collected	
	Number	Amount	Average	Number	Amount	Average	Number	Amount
1971	2	$ 275	$ 138	2	$ 275	$ 138	100%	100%
1972	223	71,274	320	215	71,024	330	96	100
1973	1,258	612,043	487	1,024	480,402	469	81	78
1974	2,688	1,068,025	397	2,443	997,615	408	91	93
1975	3,096	854,951	276	2,474	764,931	309	80	89
1976	3,735	$1,315,976	352	3,209	1,072,285	334	86	81
Total	11,002	$3,922,544	$ 357	9,367	$3,386,532	$ 362	85	86

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[a] All Coast Guard districts except the Third, Seventh, and Eighth.

Specific Oil Spill

Name of vessel : Messiniaki Bergen
Date of spill : October 6, 1974
Location : New Haven, Conneticut
Size of spill : 109,000 gallons
Type of vessel : Merchant vessel
Type of accident : Vessel grounding

On October 6, 1974, the Messiniaki Bergen ran aground in the New Haven Harbor. Coast Guard personnel initiated an investigation of the incident on the same day. Records indicated that a Coast Guard helicopter overflight was conducted from the Brooklyn air station on October 6, 1974. Records also indicated that the Army Corps of Engineers performed a preliminary bottom survey in the harbor. A final survey of the beaches and shoreline was conducted by the Coast Guard during October 1974.

Clean-up operations were assumed by the polluters and no charges were made against the oil pollution fund.

Specific Oil Spill

Name of vessel : Esso Brussels

Date of spill : June 2, 1973

Location : New York Harbor

Size of spill : 35,000 barrels

Type of vessel : Tanker

Type of accident : Collision

On June 2, 1973, the tanker Esso Brussels was struck by the merchant vessel Sea Witch while anchored in New York Harbor. About 35,000 barrels of oil were discharged into the water and 277,810 barrels of oil were safely discharged into barges. The clean-up operation was undertaken by the owner in cooperation with the Coast Guard. A hearing was conducted by the Third Coast Guard District on June 11, 1973. The conclusion reached was that the Sea Witch was responsible for the accident. The clean-up operation was monitored by the Captain of the Port of New York and the Coast Guard Group Sandy Hook from June 11, 1973 until June 18, 1973. There were two personnel from the Environmental Protection Agency involved but there are no records to indicate the length of their involvement. The Esso Brussels paid a fine of $1,000. There were no charges made against the oil pollution fund in this case.

Specific Oil Spill

Name of vessel : Dagny

Date of spill : October 9, 1974

Location : Oil Dock #7, Corpus Christie, Texas

Size of spill : 306,600 gallons

Type of vessel : Tanker

Type of accident : Polluter negligence

The Coast Guard was notified of an oil spill of unknown origin on October 9, 1974. The Coast Guard initiated an investigation and determined that the tanker Dagny was the polluter. Between October 10-22, 1974, the Coast Guard conducted a helicopter overflight of the polluted area and an inspection of the Corpus Christie Harbor. Total charges against the oil pollution fund for clean-up was $39,250. The owners were assessed $40,970.82 and a $5,000 fine was imposed and collected by the Coast Guard. The Coast Guard has referred the matter to the Department of Justice to recover clean-up costs. Records did not indicate that any other Federal agencies were involved in the incident.

Specific Oil Spill

Name of vessel : Micheal C. Lemos
Date of spill : January 22, 1975
Location : Limetree Bay, St. Croix, Virgin Islands
Size of spill : 10,000 - 50,000 gallons
Type of vessel : Greek, Very Large Crude Carrier (VLCC), built in 1971
Type of accident : Grounding

On January 22, 1975, the Micheal C. Lemos ran aground in Limetree, Bay, VI, while entering the Hess Oil Channel. The U.S. Coast Guard was involved in the clean-up operation from January 1975 to March 1975. Actual expenditures from the pollution fund were $8,429 and Coast Guard indirect cost was $44,033. The net assessment was $51,281.02 and was collected on June 14, 1976. The original fine of $5,000 was reduced to $2,000 and was paid in February 1975. The Environmental Protection Agency had some involvement but there is no record of the time and resources spent.

Specific Oil Spill

Name of vessel	Gloptik Sun
Date of spill	August 15, 1975
Location	Outside 12 Mile Limit - Along Texas Coast
Size of spill	840,000 gallons
Type of vessel	Tanker
Type of accident	Vessel collision

On August 15, 1975, the Coast Guard was notified that the tanker Gloptik Sun had struck an unmanned oil rig and was on fire. The Coast Guard cutter Gentian was dispatched to assist the burning tanker. The Coast Guard cutter Point Monroe also arrived at the scene with a search party. On August 16, 1975, the Gentian began escorting the Gloptik Sun toward Galveston, Texas. On August 17, 1975, the Gentian delivered the Gulf Strike Team to the vessel, where personnel and equipment were unloaded. The incident occurred outside the twelve-mile limit and no charges were made against the pollution fund. The Coast Guard did receive $36,943 from the owners of the Gloptik Sun for operational costs. Records indicated that no other Federal agencies were involved in the incident.

Specific Oil Spill

Name of vessel : Ercole
Date of spill : October 22, 1974
Location : Lower Mississippi River
Size of spill : 100,800 gallons
Type of vessel : Italian tanker
Type of accident : Vessel grounding

On October 21, 1974, a pollution sighting of unknown origin was made on the lower Mississippi River near New Orleans, Louisiana. The Coast Guard initiated an investigation of the incident and determined that the tanker Ercole, which ran aground in the river was the source of the oil spill.

The Coast Guard conducted a helicopter overflight of the polluted area and questioned the ship's personnel. In October 1974, the Coast Guard initiated clean-up operations which were completed in November 1974. The total charge from the pollution fund was $148,010. The net assessment was $254,632. The case is currently being referred to the Department of Justice to recover the clean-up costs. Records indicated that no other Federal agencies were involved in the incident.

Specific Oil Spill

Name of vessel : W. L. Mellon

Date of spill : December 26, 1973

Location : Chester, Pennsylvania

Size of spill : 126,000 gallons

Type of vessel : Tanker

Type of accident : Grounding

On December 26, 1973, the W.L. Mellon grounded off Chester, Pennsylvania, discharging 126,000 gallons of crude oil into the water. The clean-up operation was undertaken by the owner. The Coast Guard monitored the clean-up operation, however, and searched for deposits of oil for the next 2 1/2 weeks. The records show that Coast Guard made at least one helicopter flight to observe the spill. The Wildlife and Fisheries Commission was also called in to attempt to save 325 to 425 oil-coated ducks, and the Environmental Protection Agency offered assistance. No records are available on the amount of time and resources spent and no oil pollution funds were used.

Specific Oil Spill

Name of vessel	:	SS American Wheat (Bear)
Date of spill	:	January 29, 1975
Location	:	Lower Mississippi River - Mile 88
Size of spill	:	840,000 gallons
Type of vessel	:	Merchant vessel
Type of accident	:	Vessel collision

On January 29, 1975, the SS American Wheat collided with the up-bound tow of another merchant vessel. The Coast Guard's initial response was to put the fire out aboard the tank barges that were being towed. The Coast Guard subsequently started clean-up operations through several contractors. Total charges against the oil pollution fund for clean-up was $839,000. The owners were assessed $1,102,337 and a $5,000 fine was imposed. This case has been referred to the Department of Justice for collection of the fine and the clean-up costs. Records indicated that other Federal agency costs incurred were as follows:

--General Services Administration	$ 77.24
--Defense Contract Audit Agency	1,110.00
--Environmental Protection Agency	5,521.00

Specific Oil Spill

Name of vessel	Sportin Lady
Date of spill	April 4, 1975
Location	39 N 71 W
Size of spill	6,000 gallons
Type of vessel	Tanker
Type of accident	Vessel Equipment Failure

The spill occured outside the twelve-mile limit and there was no clean-up and no charges against the pollution fund.

Specific Oil Spill

Name of vessel : ZOE Colocotroni

Date of spill : March 17, 1973

Location : 3 1/2 miles of the Coast of LaPasguera, Puerto Rico

Size of spill : 1,500,000 gallons

Type of vessel : Greek Tanker

Type of accident : Grounding

The ZOE Colocotroni was bound from Venezuela to the Commonwealth Oil Refinery in Guayanilla, Puerto Rico, when it ran aground on a reef. In later hearings it was found that the gyro compass was not working properly and the radar and depth sounder were inoperative. Total charges against the pollution fund was $562,047. The owner was assessed $677,660 and a $5,000 fine was imposed. The Coast Guard was involved in clean-up operations until May 5, 1973. The Environmental Protection Agency was also involved but there are no records of time and resources spent. The Master of the ZOE Colocotroni was found quilty of failure to notify the proper authorities after the oil discharge and he was fined $6,000. Action to recover clean-up costs is still pending.

B. DEPARTMENT OF JUSTICE TABLE AND RESPONSE TO MARCH 3, 1977, LETTER

ASSISTANT ATTORNEY GENERAL
LEGISLATIVE AFFAIRS

Department of Justice
Washington, D.C. 20530

MAR 2 2 1977

Honorable John L. Burton
Congress of the United States
Washington, D.C. 20515

Dear Congressman Burton:

This is in response to your request for statistical information relating to the Department of Justice's collection function under the Federal Water Pollution Control Act and the Ports and Waterways Safety Act of 1972 as set forth in your letter to the Attorney General dated March 3, 1977.

The information which you requested is set forth on the enclosed report which covers calendar years 1974 through February, 1977. Table I of the report includes the total number of referrals received by the Department involving the imposition of civil penalties by the Coast Guard for violations of Section 311(b)(6) of the Federal Water Pollution Control Act. Approximately 64 percent of the referrals have been processed resulting in the collection of $464,342.00. The declination rate is about 4 percent.

Table II of the report contains Coast Guard referrals involving the recovery of Federal funds expended for removing oil discharged into the navigable waters of the United States. Subsection (A) of this table indicates that there were 45 referrals involving the expenditure of Federal funds to clean up oil discharged from vessels. The funds so expended totaled $16,127,781.00. None of the matters referred by the Coast Guard in this category were declined. Subsection (B) notes that the Department received 45 referrals involving the expenditure of Federal funds to remove oil which was discharged from an onshore or offshore facility. The sums so involved totaled $2,765,979.00. Of this amount, $519,551.00 has been collected. Approximately 10 percent of the referrals in this category were declined involving about $108,686.00.

Table III of the report indicates the litigation involving civil penalties assessed by the Coast Guard pursuant to the Ports and Waterways Safety Act of 1972.

We hope that this material will be of assistance to you in your review of the Department's activities relating to the prevention of oil pollution. Please do not hesitate to call upon us if we can be of further assistance to you.

Sincerely,

Patricia M. Wald
Assistant Attorney General

Enclosure

Table I

Civil Penalties for Violations of Section 311(b)(6) of the
Federal Water Pollution Control Act
(January 1974 - February 1977)

Referrals	Declined	Pending	Penalty Assessed	Penalty Collected	% Collected/Assessed
1049	76	388	$ 1,050,139	$ 464,342	44%

Table II

Referrals involving the recovery of Federal funds expended for clean-up
(January 1974 - February 1977)

	Year of Referral	Number of Referrals	Cleanup Claim	Amount Collected
A. Vessels				
	1974	6	$ 1,371,278	None
	1975	9	$ 4,392,778	None
	1976	22	$ 1,285,777	None
	1977	8	$ 9,077,948	None
Subtotal:		45	$16,127,781	
B. On-Shore/ Off-Shore Facilities		45	$ 2,765,979	$ 519,551.28
Totals:		90	$18,901,760	$ 519,551.28

Table III

Ports and Waterways Safety Act of 1972
(January 1974 - December 1976)

Referred	Amount Assessed	Amount Collected	Pending
16	$18,633	$5,983	None

APPENDIX 3

A. TANKER CASUALTY INFORMATION SUPPLIED BY THE TANKER ADVISORY CENTER

TANKER ADVISORY CENTER

315 WEST 70TH STREET, NEW YORK, N. Y. 10023

(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

March 11, 1977

Sub-Committee on Government Activities
& Transportation
B-350 Senate Office Building
Washington, D. C. 20515

Prepared tanker casualty reports on following tankers:

Name	Nationality	# casualties
Cherry Lord	Singapore	3
Ercole	Italian	5
Globtik Sun	British	5
Hillyer Brown	U.S.A.	1
Messiniaki Bergen	Greek	3
Michael C. Lemos	Greek	8
Notre Dame Victory	U.S.A.	10
Spartan Lady	Liberia	8
William Larimer Mellon	Liberia	2
Totals	9	45

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315 WEST 70TH STREET, NEW YORK, N. Y. 10023
(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 8, 1977

NAME: Cherry Lord
EX: Jawachta
EX:
FLAG: Singapore
DWT: 55,000
TYPE: Steam Tanker
YR. BUILT: 1963
COMMENTS:

WHERE BUILT: Kiel, Germany
BUILDERS: Kieler Howaldtswerke A. G.
LENGTH O.A.: 740.10 Feet
BREADTH: 102.18 "
S. DRAFT: 40.65 "
HORSEPOWER: 13,560
SPEED: 14.6 knots

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1963	Jawachta	Nor.	A/S Kosmos	Jahre, Anders, (Sandefjord)	Owns 21 tankers
1976	Cherry Lord	Sing.	Norrona Shipping Co. Pte. Ltd.	Norse Management Co.(Pte.) Ltd. (Singapore)	Owns 4 tankers Purchase price, excess $1 million.

CASUALTIES

since 1/1/64

As Jawachta:

February 16, 1968 Oil Spill	Several thousand litres of crude oil ran into Kattwykhafen at Hamburg due to an unclosed valve on tanker. Discharging operations were stopped temporarily.
December 21, 1973 Hit Bottom or Stranded; Oil Spill	Hit bottom in Baltic off Sweden's SE coast. (Master says he hit wreck.) Lost an estimated 1,000 tons crude oil. Vessel enroute Amuay Bay, Venezuela to Finland with 20,000 tons cargo. Towed into Karlshammn, Sweden where rest of cargo lightered off. Repaired at Gothenburg for 66 days. Sustained severe damage to cargo/fuel tanks. 500 men cleaning up 25 miles polluted beaches.

As Cherry Lord:

May 25, 1976 Hit Reef While Picking Up Pilot	While manoeuvring into pilot station at Jeddah, Saudia Arabia struck with starboard side a reef. Sustained some damage to #2 tank and transferred cargo of crude oil to other tanks. Proceeded to Malta for 30 days repairs. Cargo of crude oil, loaded at Khor al Amaya was transfered to other vessels.

Note: All the casualties included in this report were obtained from Lloyd's List, the daily newspaper published by Lloyd' of London. The vessel and ownership data were obtained from THE TANKER REGISTER, published by H. Clarkson & Company Limited of London, and also from Lloyd's LIST OF SHIPOWNERS. The casualties have been retained by the Tanker Advisory Center starting January 1, 1964. The Tanker Advisory Center does not guarantee the accuracy of the information contained herein, nor does it accept responsibility for errors or omissions or their consequences.

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315 WEST 70TH STREET, NEW YORK, N Y 10023
(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS: DATE: March 8, 1977

NAME:	ERCOLE	WHERE BUILT:	Genoa, Italy
EX:			
EX:		BUILDERS:	Ansaldo S. p. A.
FLAG:	Italian	LENGTH O.A.:	806.75 feet
DWT:	58,375	BREADTH:	105.58 "
TYPE:	Steam Tanker	S. DRAFT:	41.50 "
YR. BUILT:	1961	HORSEPOWER:	21,000 SPEED: 17 knots

COMMENTS:

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1963	ERCOLE	Italian	Nereide S.p.A. di Nav.	Nereide Soc. Per Azioni di Nav. (Palermo)	Owns 3 tankers
1968	"	"	Nereide Soc. Per Azioni di Nav.,		

CASUALTIES
since 1/1/64

As ERCOLE:

May 30, 1965 Stranded In Suez Canal	Stranded (report says grounded) and refloated with tug assistance in Suez Canal at Km. 130 and resumed passage Jabal Dhanna, United Arab Emirates to Portland, Maine. No damages reported.
September 15,1967 Fire in Wiring & Switchboard	Enroute Bari, Italy for Durban had fire in engine-room wiring and main switchboard. Was taken under tow by Dutch tug Thames and towed to Gibraltar. Vessel was loaded with 16,000 tons of fuel oil. Left Gibraltar several days later and towed Genoa, Italy to discharge and then repair for 30 days.
October 27, 1970 Collision At Sea	Collided with motor vessel GEORGE S. EMBIRICOS in South China Sea. Tanker was enroute Shimotsu, Japan for Bahrain, in ballast. EMBIRICOS damaged in #6 hatch. ERCOLE heavily damaged port bow, put into Singapore for 8 days of temporary repairs, then proceeded Genoa for bow repairs that required about 220 tons of new steel.
March 2, 1971 Hit Submerged Object At Sea	Enroute Hamburg for the Persian Gulf, in ballast, alleged to have struck a submerged object in the North Sea and proceeded to Rotterdam for drydocking repairs that took nine days. Damage details were not provided.
October 22, 1974 Stranded In River; Oil Spill	Stranded in River Mississippi at Mile 177. Vessel refloated 16 hours later after lightering part cargo into barge as a tank was leaking and spilled about 2,400 barrels. Left New Orleans October 31, 1974. No damage details.

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ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS: DATE: March 8, 1977

NAME:	GLOBTIK SUN	WHERE BUILT:	Stavanger, Norway
EX:	Bergebonde	BUILDERS:	Rosenberg M.V.A/S
EX:			
FLAG:	British	LENGTH O.A.:	734.0 Feet
DWT:	54,760	BREADTH:	104.17 "
TYPE:	Motor Tanker	S. DRAFT:	41.16 "
YR. BUILT:	1961	HORSEPOWER:	23,100 SPEED: 16.0 knots

COMMENTS: Sold in September 1975, following catastrophic contact and fire damage, to Texas based interests. In January 1976 breaking up of vessel started at Brownsville, Texas

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1963	BERGEBONDE	Nor.	Skibs A/S Snefonn, Skips A/S Bergehus & Sig. Bergesen d.y. & Co.	Bergesen, Sig,. D.Y. & Co. (Oslo)	Owns 10 tankers
1965	"	"	Bergesen, Sig,.D.Y. & Co.	" " " "	
1969	GLOBTIK SUN	British	Brandts, Wm,.(Leasing) Co. Ltd.	Aries Shipping Co. Ltd. (Hong Kong)	Owns 3 tankers
1973	" "	"	" " "	Brandts, William, (Leasing) Ltd. (London)	Owns 3 tankers
1974	" "	"	Globtik Tankers (Bahamas) Ltd.	Globtik Management Ltd. (London)	Purchase price; $10 mil. + charter

CASUALTIES
since 1/1/64

As BERGEBONDE:

April 5, 1965 Collision in Port	In collision with motor vessel Yang Tse while entering Port Said harbor channel. Tanker was enroute Wilhelmshaven for Mena al Ahmadi in ballast. Understood slight damages only. Both vessels entered Suez Canal unexamined by surveyors.

As GLOBTIK SUN:

August 27,1969 Crew Negligence	Arrived at Amsterdam and reported to have main engine damage. Survey revealed extensive main engine, auxiliary engine and electrical motor damage which alleged due to crew negligence and numerous scavenge fires. Repairs consist of dismantling main engine, renewing cylinder blocks, reconditioning 73 motors.
May 4-5,1971 Weather Damage	On voyage from Chiba to the Persian Gulf, encountered heavy weather. Proceeded Singapore for repairs to No. 2 generator stator and rotor damage.
March 3, 1972 Machinery Damage	At Copenhagen vessel reported turbo-blower damage. New blower brought on board for eventual replacement of damaged blower. Surveyed not conducted.

As GLOBTIK SUN (continued):

August 15, 1975 Hit Oil Rig; Oil Spill; Fire; Constructive Total Loss	Stuck unmanned oil rig Platform A in Gulf of Mexico 185 miles southwest of New Orleans. Vessel on voyage with cargo of crude oil from Aruba, N.W.I to Baytown, Texas. The vessel and platform both caught fire. Abondoned by crew; 3 dead and 3 missing. USCG cutter assisted in extinguishing fire and later vessel arrived off Galveston in tow of two tugs. Cargo discharged to barges. Oil had caused slick after leaking from hole in bow following contact with rig.

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ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 9, 1977

NAME:	HILLYER BROWN	WHERE BUILT:	Chester, Pennsylvania
EX:			
EX:		BUILDERS:	Sun S. B. & D. D. Co.
FLAG:	American	LENGTH O.A.:	523.50 feet
DWT:	17,710	BREADTH:	68.00 "
TYPE:	Steam Tanker	S. DRAFT:	32.07 "
YR. BUILT:	1953	HORSEPOWER:	7,000
		SPEED:	15.0 knots
COMMENTS:			

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1960	HILLYER BROWN	American	Standard Oil Company of California	Same as Owner of Registry	Owns 26 tankers
1963	" "	"	" " "	California Shipping Company (San Francisco)	
1966	" "	"	" " "	Chevron Shipping Company (San Francisco)	

CASUALTIES

since 1/1/64

As HILLYER BROWN:

March 7, 1973 Hit Rock; Oil Spill	Struck rock entering Cold Bay, Alaska and reported to have lost 210,000 gallons of gasoline and diesel oil. Several compartments ruptured. Owner said most of fuel dissipated in the choppy seas and high winds. Vessel repaired at San Francisco. No details of damages.

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ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 9, 1977

NAME: MESSINIAKI BERGEN
EX: Messiniaki Drys
EX:
FLAG: Greek
DWT: 29,751
TYPE: Motor Tanker
YR. BUILT: 1970

WHERE BUILT: Aioi, Japan
BUILDERS: Ishikawajima-Harima Hvy. Ind. K.K.
LENGTH O.A.: 560.36 feet
BREADTH: 85.32 "
S. DRAFT: 36.13 "
HORSEPOWER: 11,200
SPEED: 16.5 knots

COMMENTS: Name change from --Drys to Bergen evidently made about same time as placing in service.

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1971	MESSINIAKI BERGEN	Gr.	Ikerigi Cia. Nav.S.A.	Karageorgis, Michail A., S. A. (Piraeus)	Owns 15 tankers

CASUALTIES

As MESSINIAKI BERGEN:

April 1, 1970 Contact	Reported contact with barge in Yokohama Roads shortly after delivery from builders yard. Damages surveyed but not detailed.
March 11, 1972 Grounded In River	Vessel grounded in loaded condition in Columbia River, enroute to Portland, Oregon. Master requested survey. No damages reported.
October 6, 1974 Grounded In Port; Oil Spill	While entering New Haven, Connecticut vessel scraped bottom and sustained serious split in hull, resulting in leakage of about 350 tons of crude oil to New Haven harbor. Following discharge proceeded Baltimore for repairs. Renewed 10 bottom plates and part renewed 2 plates along with straightening of internals.

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ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 8, 1977

NAME:	MICHAEL C. LEMOS	WHERE BUILT:	Bremen, Germany
EX:			
EX:		BUILDERS:	A. G. Weser
FLAG:	Greek	LENGTH O.A.:	1141.78 feet
DWT:	249,980	BREADTH:	170.14 "
TYPE:	Steam Tanker	S. DRAFT:	65.47 "
YR. BUILT:	1971	HORSEPOWER:	31,550

SPEED: 16 knots

COMMENTS:

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1972	MICHAEL C. LEMOS	Gr.	Sunrise Shipping Co. S. A.	Lemos, C. M.,& Co. Ltd. (London)	Owns 35 tankers
1975	" "	"	" "	Nereus Shipping S. A. (Piraeus)	All Lemos vessels now with Nereus.

CASUALTIES

As MICHAEL C. LEMOS:

July 3, 1972 Hit By Tank Barge While at Anchor	While anchored at St. Croix, Virgin Islands, was struck by tank barge THATCH CAY which was coming alongside to lighten vessel. Barge was attended by two tugs at time of contact. About 42 ft. of bulwarks, two large roller fairleads and one upper shell plate on starboard bow all heavily set in and main deck plating in way heavily set down. About 10 tons of steel damaged.
December 12,1972 Weather Damages	Encountered heavy weather and sustained damages. Breakwater buckled, main condenser sliding feet loose in guides, main boiler four superheater elements sagged and 15 various cracks in No. 10 port and stbd. ballast tanks. Repaired at Lisbon, in April 1974.
February 7, 1974 Machinery Damage	Immobilised at Jebel Dhanna, United Arab Emirates, with engine failure. Expect to complete repairs in 3 or 4 days. No further information given.
Oct./Nov.,1973 Crew Negligence	Alleged crew negligence caused following damage. Main boiler six economiser element inlet orifices choked with magnetic iron oxide due to failure to maintain magnetic filters clean and elements cracked, leaking and subsequently plugged. Renewed six elements at Lisbon, April 1974.
September 9,1974 Oil Spill	While discharging at Havre, France lost 5 or 6 tons of crude oil overboard by mistake in Havre dock. All necessary steps were taken in order to avoid pollution in Havre port.

As MICHAEL C. LEMOS (continued):

January 22,1975 Stranding In Port; Oil Spill	Stranded at St. Croix when proceeding to terminal after partial lightering of crude oil into barges. Bottom plating in way of No. 1 tank extensively damaged and two tanks ruptured. Heavy leakage of oil to sea estimated at between 10,000 and 50,000 gallons. Refloated, proceeded to position about 35 miles off St. Croix and transferred cargo from damaged tanks to sound tanks with assistance of pumps from U.S. Coast Guard. Discharge at St. Croix and proceeded to Lisbon for repairs. Total weight of new steel for repairs about 370 tons.
August 21, 1974 Weather Damages	While in drydock at Lisbon in March 1975 owners advised of damage due to heavy weather on laden passage from Ras Tanura, Saudia Arabia to Havre, France. Damage sustained to various guard rails, pipes, guard plates and gratings on deck and No. 6 center tank aft bulkhead fractured.
May 25, 1976 Tailshaft Damage; Leaking Oil	Arrived Cape Town, South Africa on voyage from St. Croix for Persian Gulf, with heavy leakage of oil from after stern tube oil seal. Vessel remained at Cape Town for 4 days repairing tailshaft oil seal.

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ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 11, 1977

NAME: NOTRE DAME VICTORY
EX:
EX:
FLAG: American
DWT: 80,983
TYPE: Steam Tanker
YR. BUILT: 1973
WHERE BUILT: Chester, Pennsylvania
BUILDERS: Sun S. B. & D. D. Co.
LENGTH O.A.: 811.00 feet
BREADTH: 125.00 "
S. DRAFT: 43.59 "
HORSEPOWER: 24,000
SPEED: 17 knots
COMMENTS:

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1974	NOTRE DAME VICTORY	American	United States Trust Co. of New York	Same (New York)	owns 1 tanker

CASUALTIES

As Notre Dame Victory:

February 21, 1974 Hit Moored Tanker; Oil Spill	Upbound Delaware River, carrying crude oil, struck steam tanker ATHOS moored at Paulsboro, New Jersey. VICTORY is reported to have lost steering prior to the collision, which holed the ATHOS causing about 21,000 gallons of oil to spill into the river. Stem plating of VICTORY set back and flattened for about 25 feet over four plate strakes. Repaired damages at Chester, Penna.
February 18, 1974 Grounded in River	Grounded in Delaware River, inbound, loaded. Damages were sustained but no report available.
Feb. prior 18,1974 Weather Damage	Sustained heavy weather damages prior arrival in Delaware River in February but no details available of damages.
October 31, 1974 Generator Damage	Had turbo-generator failure on arrival Ras Tanura, Saudia Arabia. In November put in to Cape Town for three days to effect generator repairs, assume in loaded condtion.
December 1, 1974 Generator Damage	Diesel generator engine failed. Necessary renew crankshaft and bearings and seven pistons and liners. Repairs carried out at Chester, Penna. in Feb. 1975.
June 11, 1975 Fire In Boiler Room	Reported to have fire in engine room in vicinity of Puerto la Cruz, Venezuela. Vessel on voyage from Philadelphia to Trinidad, in ballast. Fuel line of auxiliary diesel engine located on boat deck snapped and fuel rolled into boiler room and flared. Damage apparently not too extensive. Diverted to Curacao for 5 days repairs.
May 28-29,1975 Boiler Damage	Sustained boiler damage on voyage from La Skhirra to Philadelphia, just prior arrival Phila. No details of damages available.

As NOTRE DAME VICTORY (continued)

March 6-17,1976 Weather Damages	Sustained heavy weather damages enroute Libya to Philadelphia, loaded. Inspection revealed major damage upper section of stack carried away together with 12-in. main conduit pipe on foredeck and numerous deck fittings damaged.
December 3 , 1976 Crew Negligence	Enroute River Zaire to Port of Spain, Trinidad alleged crew negligence in improperly operating evaporator caused carry-over and damage to turbogenerator, main engine and main and auxiliary boilers. At Jacksonville shipyard in March 1977 found structural and piping modifications greater than originally anticipated and additional repairs required to main and auxiliary boilers.
December 30, 1976 Crew Negligence	After arrival at Jacksonville, Florida alleged crew negligence in failing to maintain proper watch on standby diesel generator allowed engine to overheat. Diesel generator replaced with reconditioned generator.

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(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS:

DATE: March 9, 1977

NAME: WILLIAM LARIMER MELLON
EX:
EX:
FLAG: Liberian
DWT: 51,601
TYPE: Steam Tanker
YR. BUILT: 1965

WHERE BUILT: Kobe, Japan
BUILDERS: Kawasaki Dockyard Co. Ltd
LENGTH O.A.: 753.00 feet
BREADTH: 101.67 "
S. DRAFT: 39.32 "
HORSEPOWER: 18,000
SPEED: 16.5 knots

COMMENTS:

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1966	WILLIAM LARIMER MELLON	Lib.	Afran Transport Co.	Gulf Oil Corporation	Owns 57 tankers
1971	" " "	"	" " " Mngr. Gulf Oil Marine Agency N.V. (Antwerp)	" " "	

CASUALTIES

As WILLIAM LARIMER MELLON:

November 25, 1971 Hit Moored Vessel	Hit moored tanker CALIOPI at quay at Dunkirk. Damages to CALIOPI rather extensive. No additional information available.
December 26, 1973 Stranded In River; Oil Spill	Stranded in dense fog in Delaware River off Chester, Penna. enroute to Hog Island terminal, fully loaded with Nigerian crude oil. Vessel refloated 1½ later as tide came in. Vessel reported sighting leakage of oil also Coast Guard received reports from companies along river of oil spill. A clean-up firm was employed by Gulf Oil to start clean-up operations. No estimate given of the amount of oil lost. No damage details provided.

NOTE: All the casualties included in this report were obtained from Lloyd's List, the daily newspaper published by Lloyd's of London. The vessel and ownership data were obtained from The Tanker Register, published by H. Clarkson & Company Limited of London and also from Lloyd's Register of Ships. The casualties have been retained by the Tanker Advisory Center starting January 1, 1964. The Tanker Advisory Center does not guarantee the accuracy of the information contained herein, nor does it accept responsibility for errors or omissions or their consequences.

TANKER ADVISORY CENTER
315 WEST 70TH STREET, NEW YORK, N Y 10023
(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

REPORTED CASUALTIES

VESSEL & OWNERSHIP DETAILS: DATE: March 9, 1977

NAME: SPARTAN LADY
EX: Sologne
EX:
FLAG: Liberian
DWT: 20,724
TYPE: Motor Tanker
YR. BUILT: 1955

WHERE BUILT: Schiedam, Netherlands
BUILDERS: D.&W. Mij. Wilton-Fijenoord N.V.
LENGTH O.A.: 557.74 feet
BREADTH: 74.00 "
S. DRAFT: 31.58 "
HORSEPOWER: 7,750
SPEED: 14 knots

COMMENTS: Vessel sunk in a gale April 4, 1975.

YR.	NAME	FLAG	OWNER OF REGISTRY	HEAD OWNER (LOCATION)	COMMENTS
1960	SOLOGNE	French	Soc. Francaise de Transports Petroliers S. A.	Same (Paris)	Owns 13 tankers
1973	SPARTAN LADY	Lib.	Laconia, Cia. Mar.,Ltd.	Penmar Steamship Agency Inc. (New York)	Owns 3 tankers
1975	" "	"	" " "	Sea Spartan Steamship Agency Ltd. (New York)	" " "

CASUALTIES
since 1/1/64

As SOLOGNE:

March 17, 1968 Grounding	At Singapore in Feb. 1969 the owners requested survey of grounding damage at Constantza. No additional information available.
May 26, 1970 Weather Damages	At Singapore underwriters requested survey of heavy weather damages. No other information available. Arrived Singapore May 28th and sailed June 10th for Persian Gulf.
November 17, 1970 Propeller Damage	At Singapore requested survey of propeller damage. No other information given.
April 26, 1970 Hull Damages	Arrived Singapore and requested survey for hull damage. No cause given for damages. Sailed May 23rd after survey and repair. No damage details.

As SPARTAN LADY:

August 29, 1973 Hit Submerged Object in River	While navigating in River Amazon during loaded voyage from Punta Cardon, Venezuela to Manaus, Brazil propeller struck a submerged object, most probably a log. One blade 60% missing and two more blades damaged. Repaired damage at Curacao.

As SPARTAN LADY (continued)

October 3, 1973 Stranding In River	Stranded, fully loaded, about two miles below Manaus refinery in River Amazon, on voyage from Punta Cardon, Venezuela. Stranding due to rudder breakdown. View no results in refloating with tug assistance tanker lightered into barges. No damages reported.
March 28, 1974 Boiler Damage	Surveyed at Schiedam on April 23rd in respect of auxiliary boiler damage. Three furnaces to renew and three furnaces to fair and support with welded girders. Cause of damage not stated.
April 4, 1975 Sunk In Gale; Oil Spill; Total Loss	Broke in two during hurricane-force winds about 120 miles SE of Montauk Point, Long Island, enroute Okrika, Nigeria for New York. One crew member died. Both sections drifted. Afterpart sank April 6-7 and bow section was sunk by Coast Guard on April 7th. Vessel was loaded with crude oil.Total Loss.

NOTE: All the casualties included in this report were obtained from Lloyd's List, the daily newspaper published by Lloyd's of London. The vessel and ownership data were obtained from The Tanker Register, published by H. Clarkson & Company Limited of London. The casualties have been retained by the Tanker Advisory Center starting January 1, 1964. The Tanker Advisory Center does not accept responsibility for errors or omissions or their consequences.

B. TANKER ADVISORY CENTER RESPONSE TO QUESTIONS OF MARCH 31, 1977

TANKER ADVISORY CENTER
315 WEST 70TH STREET, NEW YORK, N. Y. 10023
(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

April 9, 1977

Honorable John L. Burton, Chairman
Subcommittee on Government Activities and Transportation
Room B-350-A-B
Rayburn House Office Building
Washington, D. C. 20515

Dear Mr. Burton:

Thank you for your letter of March 31, 1977 commenting on my testimony before your Subcommittee. Your letter also asked for my comments on several points.

1. Does statistical evidence support the concept that the rate of casualties and pollution incidents increases with the age of a particular vessel? Why does an older vessel become a "high risk" vessel, and what structural features are most likely weakened by age?

Statistical evidence does support the concept that the rate of casualties increases with the age of a tanker. Attached is a study I made several years ago of Tanker Total Losses for the 10 year period 1964-1973. I found that Total Losses due to Strandings, Collisions and Fire/Explosions in Cargo Tanks were spread fairly consistently across all age groups and size groups of tankers. This suggests these type of casualties are primarily due to human factors. However, when studying Total Losses due to Weather, Fire/Explosions in Engine Room, Fire/Explosions in Other Locations, Flooded Engine Room and Other Causes the overwhelming evidence indicated older vessels were involved to the almost exclusion of vessels under 10 years of age. Sixty six tankers were Total Losses due to the last mentioned factors, but only 4 were less than 10 years of age.

I am not qualified to comment in any depth on the structural features most likely weakened by age. It appears however, that the normal age/corrosion factor built into new tankers is insufficient. One of the recommendations I made in the attached study was for tankers over 10/12 years of age to increase their freeboards by one mark to give more buoyancy during the remaining years of their life.

The recommendation for segregated ballast on existing tankers and double hulls on new tankers would also speak to this matter and make the tankers less prone to breaking apart when encountering bad weather while fully loaded.

2. Have any foreign governments or sectors of the industry ever published or used a "blacklist" or "debarment" list of high risk tankers? If so, please describe.

Recently Saudia Arabia announced that she would disbar from entry to her ports any vessel over 15 years of age. I believe this was done to speed up vessel turnaround. Her ports are clogged with all types of cargo vessels and the older ones are slower in handling cargo. I don't know if Saudia Arabia has put this restriction on older vessels into force to improve her in-port performance with respect to casualties.

"Blacklists" have been used by sectors of the shipping industry. For example, when trading with Cuba was forbidden following the Kennedy Bay of Pigs incident, tankers that had traded with Cuba were not chartered by the major U.S. oil companies.

"Blacklists" are maintained by most Arab nations against vessels that have traded with Israel.

3. During the Subcommittee's March 23, 1977, hearing, Rear Admiral Benkert, USCG, stated that Tanker Advisory Center statistics showing the Soviet Union as the nation with the highest safety record for tanker operations was misleading, in that tankers of that country often do not report casualties to Lloyd's of London. Please comment on this statement.

Three points shall be made on this controversial subject in an attempt to put it into perspective.

First - The inclusion of USSR tanker statistics in my testimony is in line with the practice followed by Lloyd's of London. The following table has been extracted from their report STATISTICAL TABLES 1976:

All Ships (100 GRT & over): TOTALLY LOST: 1969-1975

	1969		1970		1971		1972		1973		1974		1975	
	#	Tons % Lost	#	Tons % Lost	#	Tons % Lost	#	Tons % Lost	#	Tons % Lost	#	Tons % Lost	#	Tons % Lost
U.K.	8	0.06	9	0.19	9	0.10	8	0.06	19	0.12	15	0.08	19	0.19
U.S.A.	21	0.24	13	0.08	14	0.30	9	0.13	21	0.21	16	0.28	11	0.11
U.S.S.R.	4	0.03	1	0.03	-	-	1	0.06	2	0.02	3	0.10	3	0.06
World Totals	327	0.39	352	0.27	377	0.42	371	0.35	363	0.32	311	0.28	336	0.29

Second - Tankers owned by governments are reported on less vigorously than privately owned tankers. The U.S. government owns 66 tankers. In a recent study covering a four year period these 66 tankers were reported as sustaining only one casualty. During the same four year period, 242 privately owned U.S. flag tankers were reported to have sustained 140 casualties. Consequently the same lack of reporting of casualties to USSR tankers is probably prevalent, as they are all owned by their government. In addition, there is the skepticism about all statistics concerning the USSR. FLIGHT magazine recently commented on the extreme difficulty in obtaining reliable statistics from USSR on airline accidents.

Third - Government owned vessels in all countries probably only sustain Actual Total Losses and not Constructive Total Losses. Actual Total Losses (ATL) occur when the vessel sinks, or is listed as missing, or is so seriously damaged there is no chance for making repairs. Constructive Total Losses (CTL) occur when the estimated cost of repairing the damage exceeds the face value of the insurance policy. During the past 13 years there were 199 tanker Total Losses worldwide. 96 were declared Constructive Total Losses (CTL). The following table compares the USSR and USA tanker fleets for the past 13 years. During this time no Russian tankers were reported as Total Losses. Nine U.S. tankers were Total Losses and 4 of them were Constructive Total Losses.

USSR & USA TANKER FLEETS
(6,000 Deadweight tons & Up)

	RUSSIAN			AMERICAN		
	#	MDWT	AV. MDWT	#	MDWT	AV. MDWT
1964	107	1,929	18.1	401	8,702	21.7
1965	124	2,587	20.9	388	8,611	22.2
1966	140	3,096	22.1	378	8,611	22.8
1967	153	3,494	22.8	355	8,279	23.3
1968	166	3,733	22.5	350	8,333	23.8
1969	173	3,928	22.7	346	8,409	24.3
1970	179	4,090	22.8	344	8,694	25.3
1971	191	4,386	23.0	337	9,048	26.8
1972	194	4,461	23.0	330	9,321	28.2
1973	193	4,458	23.1	312	9,391	30.1
1974	196	4,558	23.3	302	9,616	31.8
1975	196	4,684	23.9	308	10,611	34.5
1976	209	5,234	25.0	303	10,976	36.2

USA TANKER TOTAL LOSSES 1964-1976

MoYr		Mdwt	Built		
0364	SAN JACINTO	18	1945	CTL	Exploded while tank cleaning off Virginia. Still operating.
0364	BUNKER HILL	17	1942	ATL	Exploded while tank cleaning off Tacoma, Washington. Sunk.
1064	SANTA MARIA	18	1952	CTL	Collision in Anchorage, Alaska, afire. Still operating.
1066	GULFSTAG	20	1944	ATL	Eng. Room explosion/fire Gulf Mexico.Capsized & sunk.
0967	R. C. STONER	18	1943	ATL	Broke in two after grounding on reef outside Wake Is. harbor
0371	TEXACO OKLAHOMA	35	1958	ATL	Broke in two in heavy seas off Virginia and sunk.
0272	V. A. FOGG	21	1944	ATL	Sank in Gulf of Mexico, believed exploded while tank cleanin
0774	KEYTRADER	19	1954	CTL	Collision in Mississippi River, afire, abandoned. Scrapped.
1174	TRANSHURON	20	1945	CTL	Machinery breakdown after fire, aground off India. Abandoned

In summary I would say the USSR "perfect performance" for tanker Total Losses in a 13 year period may be somewhat exaggerated, due to the aforementioned factors. None-the-less the USSR fleet appears to have a rather excellent record.

4. Are the provisions of LOADLINE and SOLAS Conventions adequate to insure the safety of tanker operations?

All tankers meet the requirements of these two conventions. Therefore, I do not think they are adequate to improve the present tanker casualty record. In my opinion we need to improve the performance of tankers. In my judgement, the adoption of the five recommendations contained in testimony before your Subcommittee is required to gain the desired improvement in tanker performance.

Sincerely,

Arthur McKenzie

Enclosure (1)

C. TANKER ADVISORY CENTER STUDY OF TANKER TOTAL LOSSES, 1964–73

TANKER ADVISORY CENTER

315 WEST 70TH STREET, NEW YORK, N. Y. 10023

(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

A
STUDY
OF
TANKER TOTAL LOSSES
1964-1973

OCTOBER 1974

TANKER TOTAL LOSSES

1964-1973

Summary

Conclusions:

- Total loss ratios of tanker tonnage are on the increase. The deeper load lines granted most tankers following the adoption of the International Conference On Load Lines, 1966 may be a contributing factor in this increase of total loss ratios, particularly for 'weather' losses.
- Fires & explosions in cargo tanks account for the highest amount of tonnage lost for any single casualty.
- Human factors appear to be the dominant cause of strandings, collisions, and fire in the cargo tanks.
- Tankers over ten years of age are more likely to become total losses from all types of casualties, other than strandings, collisions, and fire in the cargo tanks. This suggests that the condition of the vessel as it gets older makes it more susceptible to becoming a total loss in the event of a casualty.
- Investigative reports,by competent bodies,of tankers that are total losses, if made available, would alert owners and operators to use extra caution to avoid a similar casualty.

Recommendations:

- Classification societies should be required by law to investigate a casualty that results in a total loss to a tanker classed with their society. The findings of such investigation and recommendations, if any, should be made public.
- It should be required by law that either the normal age/corrosion factor built into new tankers be increased to provide more protection after the vessel is 10/12 years of age; or,tankers over 10/12 years of age should be required to increase their freeboards by one mark to give more buoyancy during the remaining years of their life, unless the original strength has been restored.
- Masters of tankers should be required by law, at least monthly, to conduct drills for all officers and crew members in the causes and prevention of fires in cargo tanks and engine rooms. Courses of instruction in these subjects, suitable for shipboard use, should be issued to each tanker by the appropriate regulatory agency.
- Every officer and crew member of a tanker should be required by law to attend a government approved fire fighting/safety training course. Courses of instruction, suitable for use aboard ship,in the correct use of each piece of shipboard firefighting equipment, should be issued to each tanker by the appropriate regulatory agency, to improve the instruction now given at fire and boat drills.

TANKER TOTAL LOSSES
1964 - 1973

The loss ratios, number, total tonnage, loss related deaths and tons of oil spilled, by tankers that were total losses were higher in the period 1969-1973 than in the previous five year period 1964-1968. Table 1 summarizes the results of the study.

Table 1

TANKER TOTAL LOSSES
(including constructive total losses)

BY FIVE YEAR PERIODS

Tons % Lost	Five Year Periods	Tanker Losses #	DWT	Dead #	Oil Spills Tons
0.36	1969-1973	82	3299000	451	719000
0.29	1964-1968	61	1418000	357	529000
0.34	1964-1973	143	4717000	808	1248000

The tanker casualty data used in this study has all been obtained from Lloyd's List, the daily marine newspaper published since 1734 by Lloyd's of London. The statistics covering the number and size of tanker fleets broken down by flag and size and details on any individual tankers have been obtained from the yearly publication The Tanker Register compiled by H. Clarkson & Company Limited of London. The calculation of loss ratios has been developed by the Tanker Advisory Center from these two sources.

The Tanker Advisory Center was formed in the early part of 1974 to serve as a reporting agent to and about the tanker industry. The Center has three primary functions, namely: (1) To provide marine casualty information obtained from Lloyd's List on all tankers in the world of 6,000 deadweight tons and over; (2) To participate in the expansion of tanker operational instruction; (3) To serve as a consultary on tankers.

There are now about 4,000 seagoing tankers of 6,000 deadweight tons and up sailing under the flags of 60 different nations. The agregate DWT of these tankers (including ore/oil and bulk/oil combination carriers) exceeds 250 million tons. This is more than half of all DWT tonnage afloat for all types of merchant vessels. The growth of the tanker fleet starting in 1964 has been dramatic as shown in Table 2. The tonnage nearly doubled during the 1964-1968 period. And in the next five years it doubled again. During this ten year period of rapid growth the ratios of tanker tonnage totally lost grew at an even faster rate.

Table 3 shows the total losses incurred in the two five year periods under review. In addition to these losses there were four tankers total losses due to hostilities that have been excluded from all the statistics. There were 2 bulk/oil and 3 ore/oil combination carriers total losses included in all the statistics. Fire & Explosions in Cargo Tanks accounted for the highest amount of tonnage lost for any one type of casualty. The increase in tankers lost because of weather and collisions in the last five years plus the threefold increase in tonnage lost due to fire & explosions during the same period is significant. One factor that may account for the increased ratio of tons lost is the increase in load lines granted most vessels following the adoption of the International Conference On Load Lines, 1966. Tankers now have less freeboard to provide buoyancy than prior to the relaxation in freeboard requirements allowed by the 1966 Convention. Likewise the increase in load lines (with a corresponding reduction in freeboard) increases the loaded sagging stresses and the wave induced loads, with the consequent increase in risk levels.

Table 2

WORLD TANKER FLEET

(6,000 DWT and Over)

As Of January 1,

1964	2998	76.0
1965	3056	83.2
1966	3160	92.3
1967	3180	101.6
1968	3272	113.3
1969	3357	127.2
1970	3418	144.2
1971	3534	167.3
1972	3685	192.8
1973	3750	218.9
1974	3928	253.6

A breakdown between constructive total losses (CTL) and total losses (TL) indicates the generally more serious consequences resulting from the total loss. Table 4 breaksdown the type of casualty by CTL and TL.

Table 5 gives the loss ratios as a percentage of tons lost by year broken down between CTL and TL. Appendix A presents graphically the data in Table 5. Whenever loss ratios are mentioned in this study it refers to the ratio of DWT lost divided by the DWT of tonnage afloat. In Table 5 and the graph of the same data in Appendix A one can note the loss ratios for total losses (TL) has increased 50% in the last five years over the previous period,1964-1968.During those same five year periods the loss ratios for constructive total losses (CTL) remained unchanged.

Table 6 compares the average size of the tankers lost in each year with the average size of tankers afloat.(In calculating the average size of all tankers the actual number and deadweight tons at the beginning and end of each year were averaged to represent the probable midyear number and size of the world tanker fleet.) The average size of the tanker losses during the earlier five year period were not greater than the average for all tankers in either TL or CTL losses. In 1969 however the average size of tanker lost exceeds the world average, particularly in the TL category. This resulted from the total loss of the 210,000 DWT Marpessa. And last year, 1973, the average size tanker that was a TL exceeded the average size of all tankers afloat. The sinking of the 216,000 DWT Golar Patricia in November of that year caused the average size of losses to increase substantially. Both

Table 3.

TANKER TOTAL LOSSES

1964 - 1973

(Total Losses, include Constructive Total Losses)

Nature of Casualty		Five Year Periods	Tanker Losses		Dead	Oil Spills
			#	MDWT*	#	M Tons*
Weather		1969-1973	17	407	107	229
		1964-1968	5	124	38	99
Strandings		'69- '73	13	586	4	126
		'64- '68	12	309	16	172
Collisions		'69- '73	12	604	128	138
		'64- '68	7	184	92	38
Fire & Explosions in	Cargo Tanks	'69- '73	17	1072	134	66
		'64- '68	16	317	136	71
	Engine Room	'69- '73	7	202	2	16
		'64- '68	9	208	55	40
	Other Places	'69- '73	3	59	12	-
		'64- '68	3	60	3	-
Flooded	Engine Room	'69- '73	5	187	-	144
		'64- '68	5	118	1	44
Other		'69- '73	8	182	64	-
		'64- '68	4	98	16	65
TOTALS		1969-1973	82	3299	451	719
		1964-1968	61	1418	357	529

* thousands of tons

Table 4.

TANKER TOTAL LOSSES
1964 - 1973

Nature of Casualty		Type	Tanker Losses		Dead	Oil Spills
			#	MDWT	#	M Tons
Weather		TL	15	368	144	319
		CTL	7	163	1	9
Strandings		TL	14	550	20	274
		CTL	11	345	-	24
Collisions		TL	10	457	169	132
		CTL	9	331	51	44
Fire & Explosions in	Cargo Tanks	TL	19	1044	160	121
		CTL	14	345	110	16
	Engine Room	TL	5	97	38	52
		CTL	11	313	19	4
	Other Places	TL	1	27	1	-
		CTL	5	92	14	-
Flooded	Engine Room	TL	8	214	1	184
		CTL	2	91	-	4
Other		TL	5	76	64	21
		CTL	7	204	16	44
TOTALS		TL	77	2833	597	1104
		CTL	66	1884	211	144

		#	MDWT
TL	1969-1973	44	2072
	1964-1968	33	761
CTL	1969-1973	38	1227
	1964-1968	28	657

of these VLCCs sank following explosions and fires in the cargo tanks. The latter tanker was the largest tanker ever lost. Appendix B shows the data in Table 6 in graph form.

Table 5

TANKER LOSS RATIOS

$$\frac{\text{DWT of Losses}}{\text{DWT of All Tankers}} = \text{Loss Ratios}$$

LOSSES			Tons % Lost		
#	MDWT	YEAR	TL	CTL	TL+ CTL
9	195	1964	.09	.15	.24
11	294	1965	.18	.16	.34
14	332	1966	.10	.24	.34
11	285	1967	.21	.06	.27
16	312	1968	.18	.08	.26
Average 5 yrs.			.15	.14	.29
14	645	1969	.36	.12	.48
16	449	1970	.14	.15	.29
19	736	1971	.23	.18	.41
21	787	1972	.24	.14	.38
12	682	1973	.20	.09	.29
Average 5 yrs.			.23	.14	.36

Of the 60 nations with tankers of 6,000 DWT and over, only fifteen have tanker fleets averaging more than one million deadweight tons during the ten year period. Table 7 indicates the loss ratios for these 15 nations. The number of tankers lost by each

Table 6

AVERAGE SIZE TANKER

MDWT

All Tkrs.	YEAR	TL	CTL	TL+ CTL
26.2	1964	18.3	24.4	21.7
28.2	1965	25.8	27.8	26.7
30.6	1966	20.4	25.6	23.7
33.3	1967	31.6	16.0	25.9
36.3	1968	19.1	20.4	19.5
40.1	1969	80.8	20.0	46.1
44.8	1970	22.4	37.5	28.1
49.9	1971	45.4	32.7	38.7
55.4	1972	37.9	36.8	37.5
61.5	1973	76.8	36.8	56.8

nation is also indicated for the period.The 124 losses suffered by these flags represent 90% of the tonnage lost.Whereas the 15 nations have slightly over 95% of the tonnage afloat as of January 1974. The remaining 19 losses were spread among 10 nations of the fortyfive with tanker tonnage averaging less than one million deadweight tons. The loss ratios for the 10 nations ranged from a low of 0.71% to 25.00%. The 45 nations are not listed with their loss ratios as it is not considered significant with less than an average of one million deadweight tons afloat. The loss ratio for American flag tankers may be somewhat understated because the calculation was based on all American flag tankers over 6,000 DWTs, and many U.S. government owned tankers were in tie up during most of the ten years under study. The loss ratio for Dutch flag tankers includes the 210,000 DWT tanker Marpessa.

Table 7

TANKER LOSSES BY FLAG 1964-1973
(Fleets averaging over one million DWT)

TONS % LOST

	#	%		#	%
Danish	-	.00	Swedish	1	.28
Russian	-	.00	Norwegian	17	.40
Japanese	1	.03	Spanish	2	.43
German	1	.08	Greek	12	.52
French	3	.10	Panamanian	11	.53
British	8	.13	Liberian	51	.57
American	7	.17	Italian	8	.75
			Netherlands	2	.85

Table 8

TANKER LOSSES BY SIZE % TONS

MDWT					LOSSES	
6 to 19	20 to 34	35 to 99	100 & up	Nature of Casualty	% Tons	#
.09	.10	.02	-	Weather	.04	22
.11	.02	.06	.09	Stranding	.07	25
.07	.04	.04	.11	Collision	.06	19
.12	.12	.08	.14	Fire Tanks	.11	33
.06	.08	.02	-	& in Eng.Rm.	.03	16
.03	.02	-	-	Expl. Other	.01	6
.03	.03	.03	-	Flood.Eng.Rm.	.02	10
.07	.01	.02	-	Other	.02	12
.57	.40	.27	.34	Total %	.34	
72	36	28	7	Number		143

The total tanker loss ratios by nature of casualty and by size of tanker is given in Table 8. The small tankers between 6,000 and 19,000 DWTs have the largest number of total losses and also the highest ratio of losses. Likewise the tankers in the size grouping of 35,000 to 99,000 DWTs have the lowest ratio of losses overall. The 7 tankers lost in the 100,000 DWT and over category were restricted to stranding, collision and fire in the cargo tanks.

Human factors would seem to be very much the dominant factor causing the casualty with respect to strandings, collisions and fire & explosions in cargo tanks. This is assumed from the fairly even distribution of these three types of casualities across all size categories. Of the 33 tankers lost by fire & explosion in the cargo tanks, 19 were in ballast and seven were reported as cleaning tanks at or just prior to the start of the fire & explosion.

Of the 16 tankers lost because of fire & explosions in the engine room, 12 were motor vessels. The preponderance of motor vessels suffering this type of casualty fits in with one's expectations.

Nine of the ten vessels lost because of a flooded engine room were loaded. Again this would be a predictable ratio of loaded to light tankers becoming total losses from this kind of casualty.

Table 9

TANKER LOSSES BY AGE 1964-1973

			NUMBER OF TANKERS								
#		Age from	1	4	7	10	13	16	19	22	25&
		to	3	6	9	12	15	18	21	24	up
22	Weather		-	-	-	2	6	9	5	-	-
25	Stranding		2	1	4	2	3	5	3	5	-
19	Collision		2	6	2	2	2	3	2	-	-
33	Fire Tanks		3	3	8	1	3	7	4	2	2
16	& in Eng. Rm.		1	-	-	3	7	2	2	1	-
6	Expl. Other		-	-	-	1	-	1	3	-	1
10	Flooded Eng. Rm.		1	-	-	-	5	2	1	1	-
12	Other		1	-	1	-	2	4	3	-	1
143	Totals		10	10	15	11	28	33	23	9	4

Table 9 shows the number of tankers lost by each type of casualty and by the age of the tanker at the time of the loss. It was not feasible to calculate ratios of tons lost by age as the total data for the world fleet was not readily available broken down by age categories. Losses due to stranding, collision and fire & explosion in cargo tanks again show this fairly even distribution across the age groupings suggesting, as with the size analysis of table 8, that human factors applicable to any tanker may be the significant cause of the casualty. However in all other types of total loss casualties for tankers the emphasis is very definitely with the older tankers. This observation seems to meet with our thinking that as the tanker ages the strength of her hull is diminished, possibly accounting for some of the weather losses; her equipment loses its initial tightness and oil leaks in the engine room are more frequent with the possibilities of engine room fires and explosions; the piping of the older tankers, particularly the inlet and outlet to and from the condensor is more liable to fracture and cause the flooding of the engine room.

Of course the human factor is still very much involved in all casualties, but age of the tanker seems to provide additional contributory mechanisms for casualties resulting in total losses other than stranding, collisions and fire in cargo tanks.

The twentytwo tankers lost because of weather were all eleven years of age and up. The 16 to 18 year age category suffered the highest number of sinkings from this type of casualty. Ten of the 22 tankers lost due to weather had very similar type casualties, in that all ten vessels broke in two in loaded condition during bad weather. A further study of these ten tankers that broke in two shows some startling coincidences. Table 10 lists these ten tankers and indicates some of their characteristics and details of the casualty. Highlights of the table follow:

- 8 of the 10 tankers were either Liberian or Panamanian registry.
- Only American or Swedish built tankers were so lost. Both countries of building suffered no war damage to their yards.
- The six American built tankers were constructed in yards owned by two companies, Bethlehem Steel and Welding Shipyards, Inc.(no longer in existence)..
- Three of the American built tankers were of the same deadweight and delivered in the same year from the same yard. They were apparently sister ships.
- Two of the afore mentioned three sister ships sunk within three weeks of each other in November 1969 on opposite sides of the world.

It is difficult not to come to the conclusion that there must have been some defect in the hulls of the three sister ships built by Welding Shipyards, Inc. that was not known to The American Bureau of Shipping that classed all three tankers. In this connection it is interesting to recall that when the American flag Texaco Oklahoma sunk after breaking in two the National Transportation Safety Board of the United States recommended that the U.S. Coast Guard, with the assistance of the A.B.S. revaluate the structural adequacy of that class of tankers with a view towards strengthening these vessels to reduce their long-term risk levels. The Liberian government did not investigate most casualties to Liberian flag tankers in 1969 consequently the benefits of a detailed investigation of identical sinkings by sister ships did not become public knowledge following the sinkings of the Keo and Pacocean.

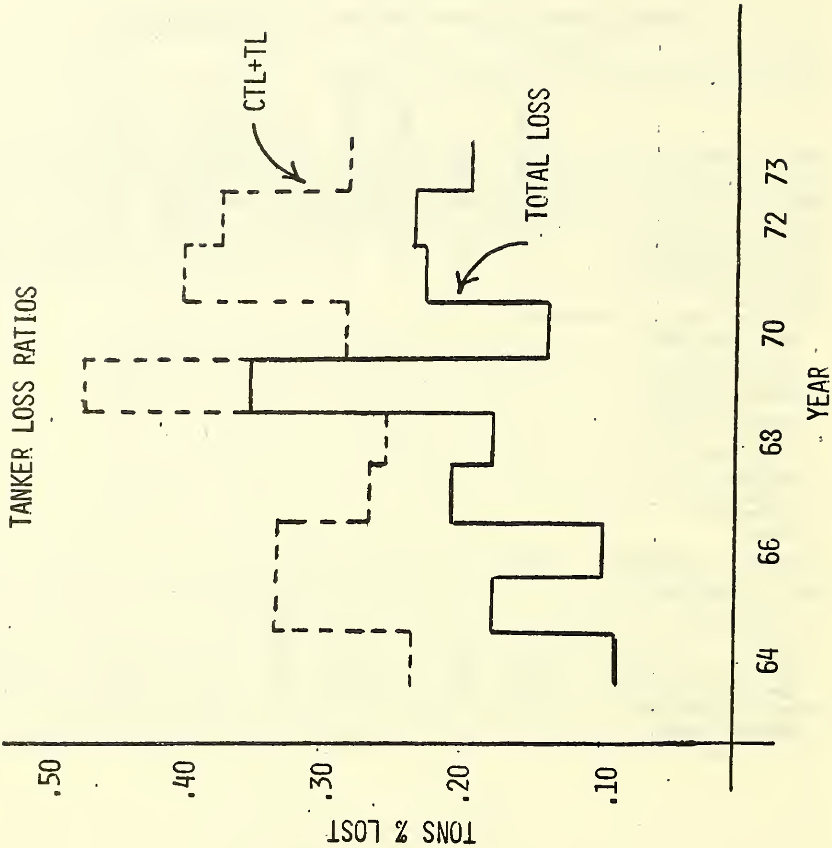
CONCLUSIONS AND RECOMMEDATIONS

The conclusions and recommendations of this study have been listed on inside of the cover page for ready reference. It is not considered necessary to repeat them here.

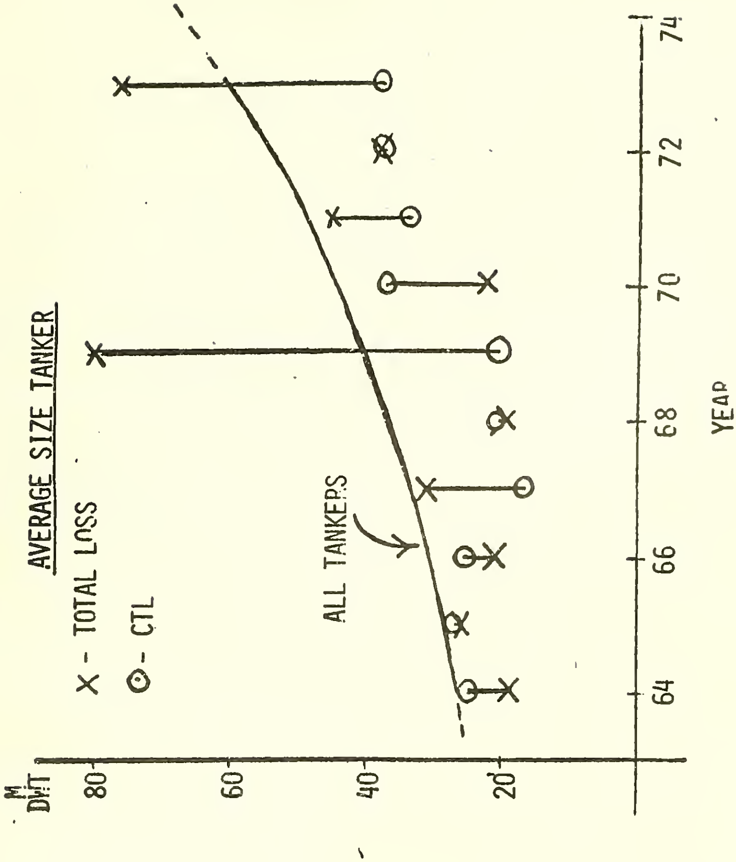
Table 10

DETAILS ABOUT TEN TANKERS THAT BROKE IN TWO IN BAD WEATHER

Name of Tanker	AMPHIALOS	KEO	PACOCEAN	WORLD GLORY	CHRYSSI	TEXACO OKLAHOMA	SOFIA P.	COMET COMMANDER	RAGNY	AARON
Flag	Lib.	Lib.	Lib.	Lib.	Pan.	Am.	Lib.	Lib.	Fin.	Pan.
Type	tt	tt	tt	tt	tt	tt	mt	mt	mt	mt
Size: Thousands DWT	30	30	30	46	31	35	19	18	17	16
Year Entered Service	49	49	49	54	53	58	54	53	51	51
Country Where Built	US	US	US	US	US	US	Swed	Swed	Swed	Swed
Shipbuilder:										
Welding Shipyards (defunct)	x	x	x							
Bethlehem Steel				x	x	x				
Oresundsvarvet							x			
A/B Gotaverken								x	x	
Kockums M.V. A/B										X
Shipyard Location:										
Norfolk, Va.	x	x	x							
Quincy, Mass.				x	x					
Sparrows Pt.' Md.						x				
Landskrona							x			
Gothenburg								x	x	
Malmo										x
Classification Society	ABS	ABS	ABS	LR	ABS	ABS	LR	NV	LR	?
Vessel Age At Sinking	15	20	20	14	17	13	16	13	19	20
Date of Sinking:										
Month	3	11	11	6	12	3	1	4	12	9
Day of Month	1	5	25	13	26	27	5	3	27	2
Year	64	69	69	68	70	71	70	66	70	71
Latitude of Sinking	41n	38n	21n	30s	31n	36n	31n	32n	38n	33n
Longitude of "	63w	67w	120e	33e	70w	74w	151e	173e	61w	165e
Effects of Sinking:										
Dead or Missing	2	36	3	25	21	31	7	11	6	2
Lost Cargo, Thous.Tons	30	30	30	46	31	35	19	17	17	16


TANKER LOSS RATIOS
CTL+TL
TOTAL LOSS
TONS % LOST
.50
.40
.30
.20
.10
64
66
68
70
72
73
YEAR

APPENDIX A


AVERAGE SIZE TANKER
X - TOTAL LOSS
⊙ - CTL
ALL TANKERS
M DWT
80
60
40
20
64
66
68
70
72
74
YEAR

APPENDIX B

D. TANKER ADVISORY CENTER, WORLDWIDE TANKER CASUALTY RETURNS, FIRST QUARTER, 1977

PLEASE NOTE:
Moving June 20th

10 East End Avenue
New York, N.Y. 10021
(212) 682-7686

TANKER ADVISORY CENTER

315 WEST 70TH STREET, NEW YORK, N Y 10023

(212) 873-3844

ARTHUR McKENZIE, DIRECTOR

WORLDWIDE TANKER CASUALTY RETURNS

FIRST QUARTER

May 28, 1977

HIGHLIGHTS:

- A record number of 8 Total Losses in three months. A slight increase over last year in the number of casualties in all categories except Fires & Explosions. (Table A)
- Tankers over 100,000 deadweight tons, as a group, have lower percentage of casualties than their respective percentages of the world fleet. (Table B)
- British, Canadian, Cypriot, Greek and Liberian tankers have larger percentage of casualties than their respective percentages of the world fleet. (Table D)
- Casualty distribution by age groups shows mixed results. (Table C)

FULL YEARS						TABLE A		FIRST QUARTERS					
# OF LOSSES		ASSOCIATED						# OF LOSSES		ASSOCIATED			
		PERSONNEL CASUALTIES		OIL SPILLS						PERSONNEL CASUALTIES		OIL SPILLS	
Partial & Total*	Total	Dead	Inj.	#	Tons			Partial & Total*	Total	Dead	Inj.	#	Tons
						1977		28	3	39	-	4	74,001
71	2	61	-	3	38,405	1976		23	-	-	-	-	-
69	2	1	-	8	32,151	75	WEATHER DAMAGE	24	1	-	-	4	11,150
107	1	-	-	3	30	74		29	-	-	-	1	30
141	3	3	2	3	19,588	73		50	2	-	-	2	19,588
						1977		28	1	-	-	4	37,031
82	6	3	-	9	124,326	1976	STRANDINGS	25	1	-	-	1	-
77	9	8	4	4	92,090	75	(Underway then stuck	27	2	8	4	2	92,000
100	3	-	-	9	60,000	74	fast on bottom)	29	-	-	-	3	?
135	4	4	49	8	58,500	73		39	1	-	-	3	2,400
						1977		7	-	-	-	1	?
23	1	112	-	2	6,000	1976	COLLISIONS	5	-	-	-	-	-
51	1	-	-	2	3,000	75	(Both vessels in motion)	11	-	-	-	1	?
77	2	15	8	10	2,930	74		15	-	13	8	2	120
71	1	14	43	6	2,350	73		20	1	14	35	3	1,500
						1977		91	-	-	-	1	7
222	4	-	-	8	1,481	1976	CONTACT (Hit bottom,dock,	71	2	-	-	1	400
273	2	36	3	14	1,887	75	moored vessel,buoy;hit	87	1	30	1	8	759
229	-	-	-	4	540	74	while moored or anchored;	65	-	-	-	3	220
250	-	13	1	7	2,800	73	hit by tugs)	52	-	-	-	2	800
						1977		15	3	30	24	-	-
63	7	50	87	2	34,016	1976		16	3	32	6	1	34,000
52	5	8	6	1	?	75	FIRES & EXPLOSIONS	16	2	-	-	-	-
76	6	76	54	-	-	74		18	1	11	1	-	-
91	4	28	48	-	-	73		19	-	6	3	-	-
						1977		59	-	-	-	-	-
180	-	-	-	-	-	1976	DAMAGE TO MACHINERY,	58	-	-	-	-	-
228	1	-	-	-	-	75	SHAFTS, PROPELLERS, ETC.	80	-	-	-	-	-
401	2	2	-	-	-	74		112	-	-	-	-	-
365	-	2	7	-	-	73		80	-	-	-	-	-
						1977	OTHER CASUALTIES (Lost	55	1	3	-	9	34,068
178	-	-	-	5	7	1976	anchor;crew negligence;	53	-	-	-	3	?
156	2	37	1	16	58,913	75	hull failure;steering	45	1	35	-	8	44,097
178	-	1	-	22	3,615	74	gear trouble;broke down	58	-	1	-	6	20
220	-	6	9	12	1,220	73	at sea;oil spill; etc.)	60	-	1	-	3	?
						1977		283	8	72	24	19	145,107
819	20	226	87	29	204,235	1976		251	6	32	6	6	34,400
906	22	90	14	45	188,041	75	TOTALS	290	7	73	5	23	148,006
1,168	14	94	62	48	67,115	74		326	1	25	9	15	390
1,273	12	70	159	36	84,458	73		320	4	21	38	13	24,288

* Includes Actual and Constructive Total Losses.

(please turn over)

COMPARISON OF VESSEL AND CASUALTY PERCENTAGES BY SIZE, AGE AND FLAG

	VESSELS		CASUALTIES FIRST QUARTER 1977								
	as of 1/1/77		TOTALS		weather	strandings	collision	contact	fire & expl.	mach. damage	other
	#	%	%	#							
SIZE RANGE MDWT		TABLE B									
6 - 19.9	792	18.7	11.7	33	3	5	-	9	2	7	7
20 - 29.9	641	15.2	20.5	58	7	4	3	18	1	11	14
30 - 49.9	686	16.2	19.8	56	2	5	1	22	3	14	9
50 - 69.9	354	8.4	8.8	25	1	6	2	10	1	4	1
70 - 99.9	517	12.2	18.7	53	7	8	-	19	2	9	8
100 - 199.9	531	12.6	11.0	31	5	-	-	6	4	7	9
200 - 239.9	313	7.4	4.6	13	1	-	-	2	1	5	4
240 & over	395	9.3	4.9	14	2	-	1	5	1	2	3
TOTALS	4,229	100.0	100.0	283	28	28	7	91	15	59	55
AGE RANGE YEAR BUILT		TABLE C									
before 1956	461	10.9	7.4	21	2	2	-	7	1	2	7
1956 - 1960	707	16.7	24.4	69	7	7	1	21	2	18	13
61 - 65	620	14.7	13.4	38	3	6	2	13	1	8	5
66 - 70	787	18.6	22.6	64	9	7	-	26	7	7	8
71 - 75	1,344	31.8	28.3	80	6	5	3	20	3	24	19
76	310	7.3	3.9	11	1	1	1	4	1	-	3
TOTALS	4,229	100.0	100.0	283	28	28	7	91	15	59	55
FLAG OF REGISTRY		TABLE D									
American	294	7.0	5.7	16	-	1	-	7	1	2	5
Brazilian	51	1.2	1.1	3	-	-	-	2	-	-	1
British	354	8.4	13.1	37	4	3	-	7	3	11	9
Canadian	28	0.7	1.1	3	-	1	-	-	-	1	1
Chinese(Mainland)	46	1.1	0.4	1	-	-	-	1	-	-	-
Cypriot	22	0.5	1.8	5	1	1	-	1	-	1	1
Danish	43	1.0	0.4	1	-	-	1	-	-	-	-
French	108	2.6	1.8	5	-	-	-	2	-	-	3
West German	63	1.5	1.4	4	1	-	1	-	1	-	1
Greek	326	7.7	16.6	47	4	4	-	16	1	13	9
Indian	46	1.1	0.4	1	-	-	-	-	-	1	-
Italian	138	3.3	1.1	3	-	-	1	-	-	1	1
Japanese	288	6.8	1.4	4	-	-	1	1	-	-	2
Liberian	1,028	24.3	39.9	113	14	11	2	42	8	23	13
Norwegian	306	7.2	3.5	10	1	2	1	4	-	-	2
Panamanian	178	4.2	3.5	10	2	1	-	3	1	-	3
Singapore	79	1.9	0.4	1	-	-	-	1	-	-	-
Spanish	82	1.9	0.7	2	-	-	-	-	-	1	1
Swedish	62	1.5	0.7	2	-	1	-	-	-	-	1
U.S.S.R.	226	5.3	1.1	3	-	1	-	1	-	1	-
Sub-Totals	3,768	89.2	96.1	271	27	26	7	88	15	55	53
46 other nations	461	10.9	4.2	12	1	2	-	3	-	4	2
GRAND TOTAL	4,229	100.1	100.3	283	28	28	7	91	15	59	55

All the casualty data was obtained from Lloyd's List published by Lloyd's of London. Tankers, ore/oil carriers and bulk/oil vessels of 6,000 deadweight tons and over were included. The number of vessels in size, age and flag groupings were obtained from The Tanker Register, published by H. Clarkson & Company Limited of London.

THE TANKER ADVISORY CENTER CAN SUPPLY YOU WITH CASUALTY INFORMATION ON VESSELS AND OWNERS GOING BACK AS FAR AS 1964. THE MARINE MANAGEMENT SYSTEMS, INC. OF STAMFORD, CONN. CAN PROVIDE SUBSCRIBERS WITH THE SAME CASUALTY DATA USING A TERMINAL ACCESSING THE GENERAL ELECTRIC TIME SHARING COMPUTER.

APPENDIX 4

A. JOINT LETTER OF MARCH 31, 1977, TO EPA ADMINISTRATOR CONCERNING PUBLICATION OF HAZARDOUS SUBSTANCE LIST PURSUANT TO SECTION 311 OF THE FEDERAL WATER POLLUTION CONTROL ACT

Congress of the United States
Committee on Government Operations
House of Representatives

March 31, 1977

Mr. Douglas M. Costle, Administrator
Environmental Protection Agency
Washington, D.C. 20400

Dear Mr. Administrator:

The Government Activities and Transportation Subcommittee held hearings March 21 and March 23, 1977, concerning the roles of the United States Coast Guard and the Federal Maritime Commission on the prevention and control of marine pollution from oil spills and on certain aspects of recovery of cleanup costs. The Environment, Energy, and Natural Resources Subcommittee of the Committee on Government Operations, which has jurisdiction over the Environmental Protection Agency, is conducting a separate investigation and holding hearings concerning cleanup capability and operations on the part of Federal agencies and other organizations.

At the March 23 hearing, a representative of the FMC discussed the Commission's policies and procedures with respect to certificates of financial responsibility issued pursuant to section 311 of the Federal Water Pollution Control Act as added by P.L. 92-500 (October 18, 1972). The FMC has issued regulations on financial responsibility for oil pollution cleanup (General Order 27, as amended, printed in 46 CFR, Part 542, Note.) Part 542 of 46 CFR (as distinguished from General Order 27) covers "Financial Responsibility For Removal Of Oil And Hazardous Substances." However, those regulations provide that their effective date shall be "the date a list of hazardous substances as designated by the Administrator of the Environmental Protection Agency pursuant to section 311(b)(2) becomes effective" (46 CFR 542.2(u)). That section of the Act requires the Administrator of the EPA to issue regulations designating hazardous substances, other than oil, which when discharged in U.S. waters present an imminent and substantial danger to health or welfare, including wildlife and shorelines.

In response to questioning, the representative of the FMC testified that, since the EPA had not yet issued such regulations, the FMC's financial responsibility certification program only operates with respect to oil pollution at this time. According to the FMC witness, the EPA is nearing completion of its rulemaking proceeding on the list of hazardous substances. He testified that it was understood in the FMC that the EPA would be out with the list "almost momentarily." Even so, more than four years have passed since the requirement of section 311(b) was enacted. Meanwhile, the FMC remains unable to impose financial responsibility requirements on vessels with respect to carriage of hazardous substances.

FMC has developed a certification system for oil pollution and has operated it for nearly 6 years. FMC's witness indicated to us ready capability to build the additional coverage into that system.

During the Environment, Energy, and Natural Resources Subcommittee's February 2, 1977, hearing on adequacy of implementation of the National Contingency Plan to clean up oil spills, witnesses on behalf of the EPA admitted that regulations identifying hazardous substances, as required by section 311(b) of the Federal Water Pollution Control Act, had not yet been promulgated.

We do not understand why there should have been the long delay in issuance of the hazardous substances list. Frankly, we find this continued procrastination intolerable. We should like to have EPA's explanation of the delay and why EPA's prompt fulfillment of its statutory duty in this matter is not urgently needed. The FMC will then be able to institute the full financial responsibility certification program provided for in P.L. 92-500.

We would appreciate your early response to our request.

Sincerely,

John Burton

Leo J. Ryan, Chairman
Environment, Energy and
Natural Resources Subcommittee

John L. Burton, Chairman
Government Activities and
Transportation Subcommittee

B. EPA RESPONSE OF APRIL 22, 1977, TO JOINT LETTER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 22 1977

THE ADMINISTRATOR

Dear Mr. Chairman:

Thank you for your letter of March 31, and for your inquiry regarding the promulgation of a hazardous substances list as required by section 311 of the Federal Water Pollution Control Act.

Section 311 is extremely complex and has been associated with a large number of significant issues. This section provides for the promulgation of a number of regulations that would serve, through the penalty and liability structures, to deter the discharge of designated hazardous substances into water and, perhaps in some cases, to alter the present practice of waterborne transportation of some particularly harzardous materials. Four regulations are necessary to implement the hazardous substances portion of the section 311 program; eight eventually are required by this section. When a list is promulgated designating certain substances as hazardous, section 311 requires a determination whether any such designated hazardous substances can actually be removed. To provide for mandatory reporting of discharges of hazardous substances, a regulation is necessary that determines those quantities of such substances that will be harmful to the public health or welfare. Within six months following the designation of hazardous substances, the Agency must promulgate a regulation that provides a unit of measurement based upon usual trade practice for each hazardous substance, and that establishes penalty rates for discharging any such substance determined not to be removable. We believe it necessary to publish these four regulations simultaneously in order to adequately implement the section 311 program.

The Environmental Protection Agency published an advance notice of proposed rulemaking in August 1974, and later published proposed rulemaking for the four key regulations in December 1975. Issues remain following these publications. I have been informed that both the House and Senate Public Works Committees staffs have been apprised of such issues and that there were discussions of them between the staffs of the Agency and the Public Works Committees.

Quite frankly, I want to make a personal study of the issues involved to effectively implement a hazardous materials discharge prevention program pursuant to section 311 of the Federal Water Pollution Control Act. I propose to undertake such an evaluation within a very short time. I share your concern in the urgency to establish effective and responsible hazardous substances regulations.

Sincerely yours,

/s/ Douglas M. Costle

Douglas M. Costle

Honorable John L. Burton, Chairman
Government Activities and
Transportation Subcommittee
Committee on Government Operations
House of Representatives
Washington, D.C. 20515

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